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PARK PLAZA URBAN RENEWAL PROJECT
BOSTON REDEVELOPMENT AUTHORITY

FINAL PROJECT REPORT

SUPPORTING DOCUMENTATION

Environmental Impact Report

Revised through June, 1973

3rd Submission

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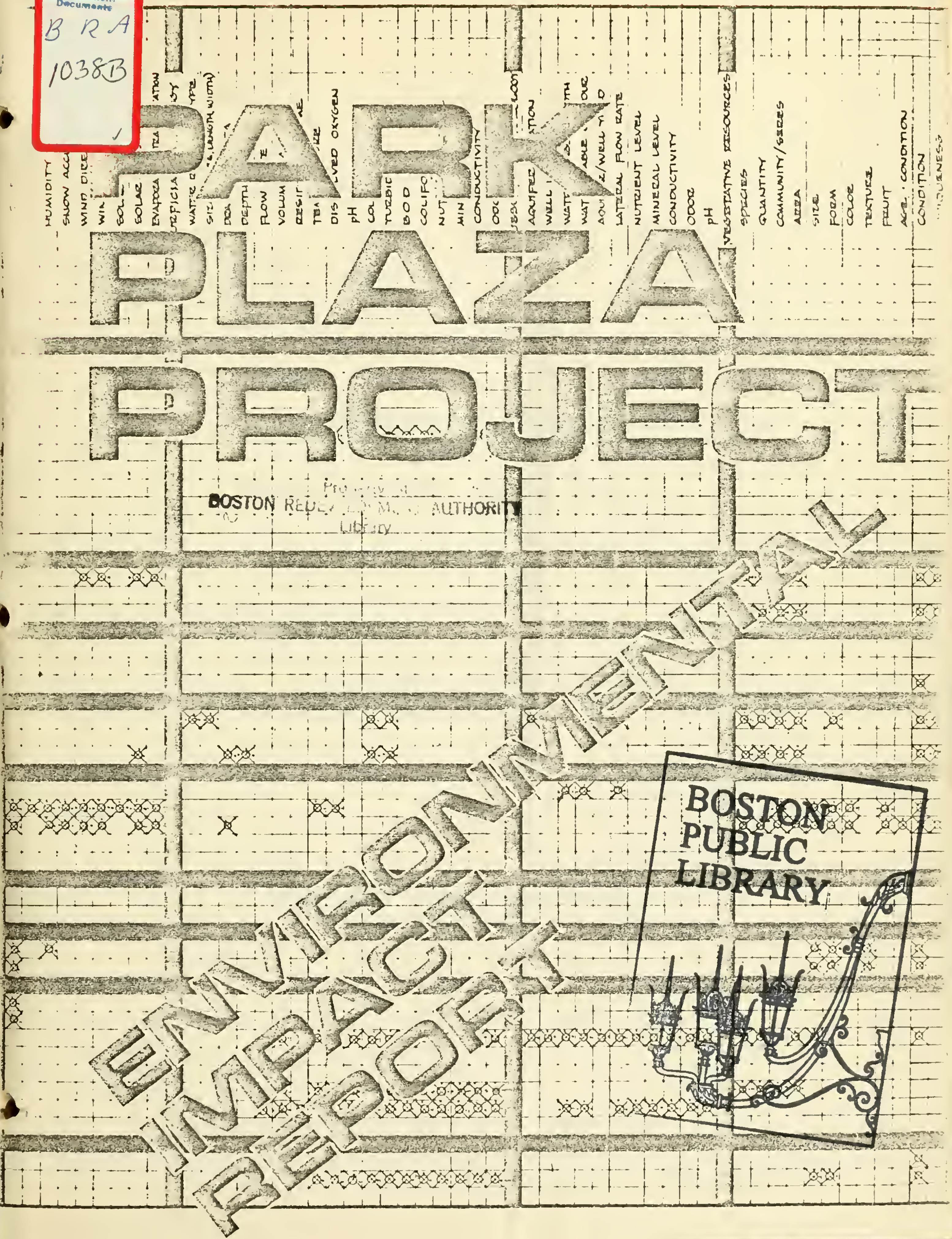
ENVIRONMENTAL IMPACT REPORT



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ENVIRONMENTAL IMPACT REPORT

PARK PLAZA URBAN RENEWAL PROJECT

Saratoga Associates report
is the yellow pages

Boston Redevelopment Authority
June 8, 1973

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SECTION A:

SUMMARY

PARK PLAZA ENVIRONMENTAL IMPACT REPORT

INTRODUCTION AND SUMMARY

Purpose of an Environmental Impact Report

An environmental impact report provides a basis for evaluating the impact of a project on the general viability and livability of the existing environment. It describes the proposed project in terms of its scope, purpose, and anticipated achievements, all in sufficient detail to permit a definition of the project's various impacts, particularly those which could be injurious to the environment. Qualitative and quantitative measures of each impact are made to determine the significance of each potential negative aspect or action of a project. Furthermore, since the fulfillment of program goals and objectives cannot always be achieved without some adverse environmental impact, there is invariably a need to reduce these impacts as much as possible. Thus, an environmental impact report indicates how the environment could be damaged and the steps taken to reduce that damage. The preparation and submission of such a report also implicitly confirms a commitment that, to the extent possible, all steps will be taken to avoid harmful actions.

An agency of the Commonwealth is required to review the impact on the natural environmental of all projects conducted

by it and is required to make a finding that all feasible measures have been taken to avoid or minimize said impact.[1]

Park Plaza will alter the project area and will affect the natural environment of the surrounding area as well.[2] This report therefore identifies and evaluates all actions of the proposed project which significantly affect the quality of the environment.[3] It is intended to demonstrate that all feasible measures have been taken and are being utilized to avoid or minimize any negative impact generated by the project.

General Description of Park Plaza

The proposed project would convert a declining retail and commercial district in the heart of downtown Boston into

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[1] Chapter 781, of the Massachusetts Acts of 1972. Although the Park Plaza Project was approved by the BRA and the Boston City Council prior to the effective date of Chapter 781, the BRA has prepared this report to conform to the requirements of Chapter 781 without conceding what aspects of Chapter 781 are applicable to the project.

[2] Chapter 781 refers specifically to the "natural environment", as specifically distinguished from the Federal National Environmental Policy Act which refers to the "human environment". This report has taken a broader view and considered the social, economic, community, and built-in physical impacts, in addition to the natural environmental impacts.

[3] Park Plaza was approved by the BRA and Boston City Council as an urban renewal project under Section 121B. As such, after land disposition, construction and development is undertaken by private enterprise. Although Chapter 781 applies only to projects undertaken by agencies of the Commonwealth, this report has dealt with all potential impacts, including those occuring after land disposition.

a new urban complex containing office, hotel, residential, retail and entertainment facilities. It represents a major upgrading of the 35 acres adjacent to the Common and Public Garden--some of Boston's most cherished landmarks.

The preliminary design for the first phase of the project calls for extensive clearance of the western portion of the site and the construction of a multi-use, multi-level complex together with major improvements in the circulation system and other project improvements.

The overall impact of the project will be beneficial to the City in terms of economic development, job creation, income generation, and the upgrading of public facilities. A more elaborate description of Park Plaza is provided under Section B of this statement.

Identification of Potential Negative Impacts

In order to evaluate properly the impact of a particular undertaking, it is first necessary to identify the specific steps or actions of that project and how each of those could affect the environment. In the case of an urban renewal project, there are a great many actions which impinge on various aspects of the environment: land acquisition may result in demolition of unique structures; excavation could

distrupt the landform; wind patterns are affected by tall buildings; air pollution is created by uses of the completed project. There are many more impacts of a complex, multi-use project in an urban area and it is thus necessary to approach their idenfication in a comprehensive, logical fashion so that potential negative impacts are not overlooked.

The identification of all potential negative impacts was undertaken for the Boston Redevelopment Authority by environmental consultants, The Saratoga Associates, in connection with a study which included the following:

-- An analysis and evaluation of all existing studies and relevant reports, plans and programs as they relate to the Park Plaza Project and its impact on the natural, physical, social and economic aspects of the environment.

-- A listing of the environmental potentials and limitations of the Park Plaza Project.

-- A program for the future monitoring of the environmental impact of Park Plaza during design and construction.

That report by The Saratoga Associates is attached at the end of this report and provides an independent, objective approach to analysing the environ-

mental aspects of the Project. It establishes the relationship between proposed actions which might affect the environment and the various characteristics of the environment. The urban renewal process was subdivided into 45 separate steps or activities--from land acquisition through construction and occupancy--and the environment was subdivided under 250 separate social, economic, physical, and natural characteristics. The resulting matrix displays the possible environmental impact relationships. Each of these possible or potential impacts was next evaluated from the standpoint of its duration, nature, magnitude, and scope. The significance of these evaluations taken as a whole was investigated and priority issues were established. In this manner, the report identifies the potential negative impacts and those which could significantly affect the quality of the environment.

The classification technique in the Saratoga report purposely favored the identification of "adverse" impact to be certain that no potential adverse effects were overlooked.[1] Various priorities in evaluating potentially negative impacts were established based on such factors as when the action occurs and whether it can be reversed once it is commenced.

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[1] This built-in bias is customary and appropriate in environmental impacts statements or reports as there is no need to be exhaustive with respect to identifying each and every possible beneficial impact.

The potential impacts were sub-divided into very specific environmental issues. For example, air quality is analyzed in the light of the impact of auto, truck, heating systems, and other factors; and the general subject of air pollution includes several potential impacts. For ease in discussion it is convenient to refer to the project's potential impact in the following priority areas:

Surrounding Residential and Commercial Areas
Common and Garden
Foundation Design and Water Table
Air Quality and Noise Levels
Historic Preservation
Water, Sewers and Other Services

The basic program for Park Plaza implies certain major commitments. In certain cases, the environmental impact, if it were to occur, could not be reversed, minimized and/or avoided. It is this group of impacts which were given the highest priority by the environmental consultants. Thus, of the approximately 340 very specific environmental issues requiring further analysis during the course of the project, about half represent the priority aspects of six groups more fully described below.

The environmental consultants systematically raised the relevant questions. This permitted the BRA, in turn, to evaluate the priority aspects of the project in order to explore fully the

nature of proposed actions so that any clearly or potentially adverse consequences and costs are identified beforehand and appropriate actions taken to minimize such impacts.

Priority Areas

After careful review of the consultant's findings as well as its own investigations, BRA has concluded that measures have been and are being utilized to minimize or avoid undesirable consequences and that there are no unavoidable impacts of major significance. A full description of the significant potentially negative impacts together with an evaluation of their magnitude and importance, and the specific measures taken to minimize them is included later in this statement. These conclusions may be summarized as follows:

Common and Garden

The most notable effect will be the removal of the present negative conditions in the Park Square Area.

Pedestrian use will increase in the southern portions, but the City of Boston is pledged to carry out a restoration program over the next few years,

and the BRA will require the developer to invest $250,000 in improvements to the Common and Garden.

Shadows cast by the new towers will have no substantial effect in early spring and fall. Thus, with light energy not substantially reduced during the growing season, shadows are not expected to have any significant effect on plant life. Shadows will cover significant but changing portions of the parks only during late November, December, and January when no growth takes place and when the parks are least intensively used.

Tall buildings and building complexes can intensify and focus ambient winds. Wind tunnel studies will be utilized during the design phase evaluate alternative building configurations to determine those with minimal adverse impacts. In addition, the design will require an enclosed pedestrian arcade along Boylston Street to afford users of the project and passersby protection during foul weather.

Surrounding Residential and Commercial Areas

The project will transform a deteriorating, unsightly area to a unified, attractive new development whose design will be integrated with the surrounding area.

Housing and retail market studies indicate that the project will not adversely affect the existing residential and retail uses in adjacent areas. In fact new high-quality housing, retail, and cultural and entertainment facilities will enhance the general image of the area as a place to live and work. However, the project is not expected to have any significant direct impact on surrounding neighborhoods.

The project will not place a significant burden on existing community and public facilities. The incremental through traffic will be insignificant and the additional traffic generated in and around the project area will be accommodated by improvements to the street system.

MBTA improvements are planned to alleviate peak-hour problems in the area.

Topography and Hydrology

In order to insure that excavation does not lower the water table and indirectly affect adjacent structures, geotechnic tests will be conducted both prior to and during construction and appropriate techniques will be employed.

Air Quality

The project's impact on air quality is inextricably linked with the volume of new automotive activity created by the project. An analysis of traffic generation and pollution factors indicates no significant increase in air pollution.

Historic Preservation

No buildings of significant architectural or historic distinction will be demolished. However, there are several buildings with some historic interest and every effort will be made to preserve these.

Sewer and Water Facilities

The project will not place any significant burden on sewer or water systems.

Environmental Measures

An environmental evaluation of a large-scale urban renewal project presents an analysis for which there is little precedent. The time span and the various forces which impinge on the project make it impossible to assemble all relevant data and to reach precise conclusions on each and every potential environmental impact at the beginning of the process. There is full recognition that environmental impact analysis is a continuous, ongoing concern throughout the entire design and development process. As specific environmental issues arise during the entire course of the project, they will be soundly and appropriately resolved by a work program which has now been established. BRA will undertake such an environmental work program--including necessary data development, analysis, monitoring and evaluation--to ensure proper and responsible environmental consideration of every step of the project from land acquisition through occupancy of the completed structures.

After approval by the State (Department of Community Affairs), there are at least five approvals that the BRA must give before any property can be acquired. These include:

> Approval of a building study of the use, mass and location of the proposed buildings.

Approval of a Master Land Disposition Agreement.

Approval of Schematic Drawings.

Approval of Design Development Drawing showing massing, functioning, outline of specs, and designation materials.

Approval of the financing commitment for acquisition, relocation, and demolition.

These approvals permit exacting review of the project program and design by the BRA. Furthermore, in order to expose fully all elements of the project to close public scrutiny, at least two separate groups have been established to operate during the course of the project: a citizens' advisory committee and a design advisory committee.

Alternatives to Urban Renewal

The ultimate alternative--abandonment of the plan in its entirety--ignores the realities and dynamics of downtown Boston. The Park Square Area was at one time a prosperous and well-patronized retail and service area and there are numerous examples of substantial stores and shops which have moved out. The area began to deteriorate a few decades ago and has continued to do so thereafter. Because of the irregular street system and small size of the parcels, the area as a whole will never be redeveloped by private enterprise and

there is a strong indication that it will continue to deteriorate. This is particularly distressing because of the central and highly visible location of the Park Square Area.

Since the location is both central and valuable, there will inevitably be isolated instances of non-integrated and uncontrolled building renovation or development. A very limited number of parcels may be large enough for economically feasible development. However, this will not change the basic character of the area, nor absent urban renewal project controls, will there be an adequate way to regulate the design, size, heights, and uses of structures built on these parcels. Moreover, without urban renewal, major elements of the existing parcel and street arrangement will be frozen and it will be impossible ever to change the area's character.

Alternatives to the Park Plaza Plan

Once the need for urban renewal renewal had been established in the Park Plaza area, it became necessary to create a plan for the re-use of that area which would best serve the needs of the City.

The power of the BRA to engage in urban renewal programs is fully established under Chapter 121 B of the Massachusetts General Law. Additionally, funds have in the past been

available from the U.S. Department of Housing and Urban Development (Title I of the Housing Act of 1949, as amended) to help defray the costs of undertaking an urban renewal project. The most important element of Federal financial assistance has been the land write-down provision which allows a municipality to acquire land and sell it (after relocation and demolition have been accomplished) at a reduced cost to a private developer. Most large-scale urban renewal in Boston has been carried out in this manner; i.e., Government Center, Waterfront, South Cove, South Station.

Over the last several years, however, Federal funding for downtown projects has not been available and there is currently no prospect of obtaining such funds in the foreseeable future. Thus, in the case of Park Plaza, if urban renewal was to proceed it would be necessary for the private developer to absorb the fuel cost of land acquisition and related items.

After BRA determined the most appropriate new uses for the development---office, retail, housing, hotel, and entertainment--it was necessary to allocate densities to each so that development could proceed on an economically feasible basis. That is, given certain fixed costs, primarily those related to land acquisition and project improvements, how large must

a project be (measured in terms of maximum permitted floor area) in order to support private development. Each element of the project will have to absorb its share of land costs and this cost in turn must be absorbed by the rent charged for the completed space. The Park Plaza Urban Renewal Plan was designed to permit a development scheme which, in the judgement of BRA, would provide the lowest density uses consistent with economic feasibility, bearing in mind the unusually high land costs to be borne by the developer who must pay for acquisition, clearance, and relocation.[1] This report establishes the environmental soundness of that plan.

Conclusion

BRA will continue to strive for improvements that will enhance the quality of the Park Plaza development. The housing and commercial uses will be programmed and scheduled

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[1] The BRA extensively reviewed alternative development proposals. In June 1970, the BRA issued a developer's kit for the redevelopment of the entire Park Plaza area and advertised nationally for redevelopment proposals. Twenty-seven prospective developers took out kits and by December 1970 the BRA had received five serious proposals.

to support related uses in the surrounding area. The height and massing of buildings will, to the extent economically feasible, be modified to reduce the impact of shadow, wind, and density. Maximum available resources will be applied to the maintenance of the Common and Garden. New parking facilities will be established in the context of regional transportation policies. High design quality will be mandated at every step of the process. Relocation will be carried forward in a sensitive manner and every effort will be made to retain unique buildings with some measure of architectural or historic merit. The developer will be required to utilize building sub-systems which are supportive of energy conservation, re-cycling, and other environmental measures.

The Public Garden and Common are among Boston's most important assets. At the present time, the greatest environmental threat to them is the encroaching blight of the Park Square Area. The Park Plaza Plan will combat that blight and upgrade the over-all environment.

The positive impacts of the project--elimination of the present negative, creation of the new environment and direct and regional impacts--are described elsewhere in the

supporting documentation and clearly indicate the enormous benefits which can be achieved. This report further concludes that the potentially signficant impacts can be minized through technology or design. The Park Plaza Project should proceed.

SECTION B:

DESCRIPTION OF THE PROJECT

PARK PLAZA ENVIRONMENTAL IMPACT REPORT

DESCRIPTION OF THE PARK PLAZA PROJECT

Existing Conditions

Land Use: The present Park Square and Lower Washington Street areas are dominated by commercial and office uses. In Stage I of 200,000 square feet of ground floor space and about 500,000 square feet of upper floor space will be displaced. A smaller amount of space is found in the parcels to be acquired in Stage II. According to the Ryan, Elliott survey of office space for April 1, 1973, approximately 7.8 percent of the Class C space[1] in the Midtown district, including Park Square, is vacant. All office space in the project area is considered Class C space.

The present commercial uses in the project area are varied. Ground floor tenants include car rental agencies, the bus terminal, retail establishments, lounges, and restaurants. The area is within Boston's entertainment district and includes ten movie theaters, four of which cater to adults only. Five or six "adult" bookstores are located in the project area. Of the 43 establishments with liquor licenses, about 15 are considered to be problems in terms of police enforcement.

There are more than thirty restaurants and at least 65 retail establishments. The three nearby hotels and the bus terminal are significant generators of business. The office space is rented by many small establishments as well as by attorneys, architects, and commercial artists. The office space is conveniently located between the Central Business District and Back Bay.

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[1] Any building over ten years old.

There are only a few residential units in the project area. Two residents live in single-unit buildings, the rest in multi-unit buildings on Stuart St., Carver St., and Tremont St. The majority of households are comprised of individuals living alone. A large percentage are single individuals living in joint households. The few families in the project area are by and large two person households; very few have children.

Hydrology: Park Plaza will be located on the Back Bay landfill area, which has its eastern boundary near Charles Street. The loose, sandy fill containing some ash, brick, and concrete has a minimum thickness of 5.5 feet at Charles Street and a maximum of 24 feet at Arlington and Boylston Streets. The underlying soil is a complex sequence of layers varying from silty clay to dense sand and silt throughout. Bedrock is found from 150 to 160 feet below ground surface, while groundwater levels are within 15 feet of ground surface. The level of the water table is important because it supports nearby wooden foundations and the plant materials of the Common and Garden.

Environmental Deficiencies: Park Square and Lower Washington are deteriorating areas of the city. Approximately 43 percent of the buildings in the area are structurally substandard while many others are obsolete or of non-fireproof construction. The condition of these buildings has a blighting influence on the area. The nighttime activities and adult entertainment of the area contribute visual pollution, physical blight, and loitering. These conditions could be controlled to some extent through sign control, rehabilitation of structures, and enforcement. As the area now stands, however, it is a hazard to the health and safety of the community.

The main source of noise and air pollution in the area is vehicular traffic. In accordance with the Federal Environmental Protection Act statewide, regional, and city strategies to reduce the amount of travel by automobiles are being developed. These strategies concentrate on improving the conditions in the Central Business District. The inadequate street layout of the area and the concentration of automobile-oriented businesses in Park Square create congestion which aggravates the problems of pollution.

Historical Sites: The present area developed commercially, in a haphazard manner, relatively late in Boston's history. When the filling of Back Bay was nearly complete in 1855, the predominant structure was the Greek revival row house. Between 1875 and 1900 the character of the whole area changed as commercial structures became predominant. Several buildings and courtyards can be described as "pleasant" but are totally surrounded by unattractive activities-- the back of a bus terminal, rear of commercial structures, vacated stores. The site of greatest historical importance, the location of the Liberty Tree which was destroyed by the British in 1776, is now marked by a plaque on Washington Street.

The Proposed Project

Size: The project area covers 35 acres, of which 45 percent is now devoted to streets, alleys, and parking. The first stage development (parcels 1, 2, and 3) consists of a series of five towers of varying

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* Stage I (Disposition Parcels 1, 2, and 3) is sometimes referred to in the aggregate as A, B, and C.

height which spring from a connected group of lower buildings. (The "design" for Stage I is described as it was presented in response to the B.R.A. Park Plaza competition in 1970, and approximates the scale and scope of development envisioned for Stage I. However, final design will be developed during the Building Study throughout the design review process.) Three of the towers, an 800 room hotel and two luxury apartment structures, surround a public plaza near the center of the site at the corner of Charles Street and Boylston Street. The other two are located at the east and west ends of the site: one, a moderate income apartment building is at the Tremont Street, Stuart Street intersection, and the other, a 600,000 square foot office building is at the Boylston Street, Arlington Street corner, next to the MBTA station. The towers are designed and located so as to gain maximum exposure to the views of the Boston Common and Public Garden. This configuration serves to create a unified composition, distinct as a total new development, while at the same time, relating to existing buildings, street patterns and neighborhoods.

Density: The lower buildings will cover each parcel completely, except at the center of the project where there will be an open public plaza. The plaza is the focal point opening the amenities of the hotel, apartments, shops and restaurants which surround it to the Public Garden and Boston Common.

The Plaza and the enclosed arcade are the key elements of the design. The arcade which extends the entire length of the site, gives access to all uses within the site. At its western portion, along Boylston Street, the arcade is enclosed with glass, overlooking the Public Gardens on one side, and lined with shops, restaurants and cafes

on the other side. Escalators move pedestrians to upper levels of the arcade and allow unimpeded movement above Charles Street to the eastern portion of the site where connection will be made to the Public Plaza and to the future development across Tremont Street.

The actual design for development of parcel 4 and 5 has not yet been established but will be made to conform to the general design objectives, the Land Use and Building Controls specified in the Urban Renewal Plan and the environmental considerations set forth herein.

First Stage Land Uses:

retail space	450,000 square feet
office space	1,100,000 square feet
hotel accommodations	800 rooms
residential units	1,650 units
public plaza	100,000 square feet

Design: The design objectives have been integrated into the plans for Park Plaza. These objectives are closely related to the planning objectives of emphasizing Boston as a "walking City" and unifying the design of all elements of the project.

The first objective is to create multi-use new structures with the lower elements built close to the street lines so as to maintain the dense urban character of the area. It is entirely appropriate, indeed essential, to develop a multi-use complex here, with major

elements reflecting almost all the uses found in the immediately adjacent neighborhoods. Park Plaza will connect the nearby entertainment and educational districts to the central business district. Controls have been imposed to insure that the Plan respects scale on a more intimate or pedestrian level. For example, except for less that 20% of the frontage where towers emerge, the cornice height along Boylston Street has been limited to 125 feet, compatible with the heights of the older buildings which will remain.

The second objective is to integrate the new development as much as possible with the surrounding areas. It is especially important to relate the scale of the buildings and the types of uses along Boylston Street to the adjacent Boston Common and Public Garden. The pedestrian way will provide access to Beach Street and form an important link between Back Bay and the downtown retail center. The project will strengthen Lower Washington Street by upgrading the Park Square area. This new development will become an integrating and mixing element providing a transition from each of the surrounding neighborhoods to the next.

The third objective is to provide a complete, continuous pedestrian system throughout the Project. Boston is a city that has two scales: first, it is called "a walking City" with low-scale nooks and crannies at street level, at the level of pedestrians; second, it has a high-rise scale

that reflects the current growth of one of today's living American cities. The circulation pattern of Park Plaza should reflect and reinforce this dual scale. The scheme has an interior or internal circulation system, a system of walkways and paths, of plazas and stairs and ramps for the all-day-long activities of tenants and all "walking" Bostonians. That internal system will connect directly with all the facilities in the project--hotel, stores, housing, restaurants, offices, public facilities, garages--as well as with the mass transit system. This will make the commercial district attractive to more people. Connection to the subway should be as potent as possible so as to encourage people to use MBTA instead of cars for their downtown visits. In addition, an environment will be created for those walkways as well as for those facilities and activities that will be used and enjoyed day and evening. The pedestrian walks will be enclosed in glass so they can be useful and pleasant all year long. In this way Park Plaza will enhance the character of Boston as a "walking City". The arcade will maximize the view of the Garden by adding visual enjoyment of the area in inclement weather. The central plaza will also be an important public space.

The BRA design staff and outside consultants have been concerned since the inception of Park Plaza with insuring that the development will add to the enjoyment and use of the adjacent public spaces. The attractive and continuous pedestrian areas and the extension of the concept of the park area onto the project's plaza will encourage the use of the new

development for walking, lunching, and relaxing. The value of the Public Garden and Common as an amenity will increase with the removal of the blighting influences of the presently deteriorating neighborhood to the south of Boylston Street.

Through the unification of design, uses which complement each other can be directly connected via the pedestrian system. For example, there must be access to the shopping areas from the hotel. A unified design will extend the concept of public uses into the project through the plaza pedestrian mall and extensive planting and landscaping on the low rise office building at the 125 foot level.

Another objective is the continuation of the "high spine" of Boston with an evenly spaced series of high-rise structures. The scale of development proposed for Park Plaza is entirely consistent with the guidelines which have been established for new development in the City of Boston. These guidelines call for intense development along the high spine, a linear corridor paralleling Boylston Street from Prudential Center to Washington Street and then turning north through the financial district to the Government Center, roughly coinciding with the main rapid transit routes. The Prudential Center, the New and Old Hancock Buildings, and the Tufts New England Medical Center are elements already in place on the east-west arm of this corridor.

The fifth objective is to eliminate excess and confusing roadways and replace them with an efficient, safe, and adequate new road system consistent with the downtown traffic system. The elements of the new

road system have been considered. Parking for the entire project will be away from Boylston Street and will not include curb spaces. The separation of vehicular and pedestrian traffic will be facilitated by the use of underground service roads. The vehicular system is complemented by the continuous pedestrian mall.

Relation to Surrounding Areas

Land Use: The Park Plaza Project is located in the center of City activity. On one side is Back Bay with its residential, retail, and office areas. The South Cove Urban Renewal project and Bay Village border the project on the south. On the east the area abuts the retail district. The northern edge of Park Plaza is bordered by the Common and Garden. The project is designed to link these districts in many ways. First, the uses of the project reflect the retail, residential, entertainment and office uses in the surrounding areas. Next, the project includes a new street pattern which reduces congestion and improves both North-South and East-West circulation. Third, the pedestrian ways will enhance the character of the city as a walking city. The project will also have a positive effect on the economic health of nearby businesses.

Transportation: The Park Plaza area at present contains a disproportionate amount of vehicle-oriented activity. There is the Trailways Bus Station, a bad source of vehicular congestion due to constrained bus movements and air pollution from the diesel fumes of running engines and idling automobiles. There are three car rental

agencies with their associated trips and gasoline filling stations. There are taxi ranks and there are continual arrivals and departures on the inadequate streets around the Statler Hilton Hotel. In some cases, the need for improvement is obvious, such as where better surfacing or better lighting would help. In most cases, however, the problems can only be alleviated by major change.

There is a poor circulation system, as indicated by the confusing layout of Park Square. Also, Charles Street, for example, carries far more traffic during the morning peak than it does in the evening, suggesting that it is carrying traffic that really should cross the downtown via the Central Artery. Likewise, Boylston Street where it is two-way carries its heaviest volumes inbound during the evening peak, suggesting that traffic in this part of downtown has difficulty in finding its way to the major arterials and expressways.

Road utilization in the area is currently as follows:

All-Day (11 Hours)		Peak A.M.	% All-Day	Peak P.M.	% All-Day
Charles St. North	18,400	1,850	10.1 %	1,500	8.2 %
Boylston St. West	3,200	750	23.4 %	700	21.9 %
Boylston St. East	7,300	800	11.0 %	1,200	16.4 %
Park Square North	8,600	1,000	11.6 %	1,000	11.6 %
Kneeland St. South	7,100	800	11.3 %	800	11.3 %
Kneeland St. North/W	6,400	700	10.9 %	500	7.8 %
Stuart St. South	10,600	500	4.7 %	700	6.6 %
Washington St. North	9,000	1,000	11.1 %	850	8.8 %
Arlington St. South	7,000	N.A.		N.A.	

Source: BRA/Traffic and Parking 1972 Counts.

It is interesting to note that distribution of traffic on many of the streets in the Park Plaza area is fairly even throughout the day, with only small peaking characteristics. Some streets such as Kneeland (north-west) and Stuart (southbound) actually carry less traffic during the traditional peak hours than is carried at other hours of the day. This is most likely an indication of the obsolescent and deficient state of these streets at the current time.

Natural Environment: The focus of both present land uses and the proposed project is their proximity to the Common and Garden. The Public Garden is remarkable in that it successfully and aesthetically combines the concept of garden, park, and botanic garden. It is a living demonstration that many varieties of trees can survive city conditions. The Common is more heavily traveled. The health of the trees in these parks has not been attended to. A replacement program for trees throughout the Common and Garden must be a high priority for the City. Fences to protect the parks and channel pedestrians should be repaired and replaced.

The Design Review process will monitor design element bearing upon the environment of not only the project area but of the surrounding environs, including features such as shadows, traffic, both vehicular and pedestrian, connections through the project area, the interrelation of the design to its neighbors and provision for all-weather enclosed walkways and public spaces.

SECTION C:

ENVIRONMENTAL IMPACTS

PARK PLAZA ENVIRONMENTAL IMPACT REPORT

C. ENVIRONMENTAL IMPACTS

Introduction

This section describes the significant potentially negative impacts which were identified by The Saratoga Associates, environmental consultants to the BRA. For ease in presentation, they are grouped into six priority areas.

BRA has concluded that measures have been taken and are being utilized to minimize or avoid undesirable consequences. At the same time, further data development, analysis, monitoring and evaluation are required during the entire course of the project. BRA will undertake such a work program to ensure proper and responsible environmental considerations at every step of the project.

C.1. Vegetation--Common and Garden (Effect of Land Use, Wind and Shadow)

The effect of Park Plaza on the Boston Common and Public Garden has been the subject of considerable study and discussion. The protection of the Common and Garden has long been a vital concern of the Authority and the City, and considerable effort has been expended to evaluate all of the impacts created by Park Plaza. The direct effects--land use, wind, and shadow--are described below. (Other indirect impacts such as air pollution are described elsewhere in this statement).

Effect of Land Use

The most notable effect of Park Plaza will be its removal of the present negative conditions in the Park Square area. Most of the buildings are sub-standard and unsightly and the area contains numerous environmental deficiencies which negatively impact the Common and Garden. There are numerous visual effects--lack of sign control, physical deterioration and loitering--which can be improved through the Park Plaza Project. By changing the image of the area, the new project should improve the economic health of

the nearby restaurants, theaters, and retail establishments. Nighttime activities and entertainment uses are an important part of the plan for Park Plaza. The total effect will make the Common and Garden more inviting and accessible and more in line with its intended purpose--providing an attractive open, green space for adjacent neighborhoods and others who work in or visit downtown. The project area now has undesirable effects on the surrounding retail districts and on the Common and Public Garden. The new project will provide safe connections, free of deteriorated buildings and unsafe intersections, between Back Bay and Washington Street, between South Cove and the retail district, and between South Cove and the Common and Garden.

Pedestrian movement through the parks will be controlled by providing an attractive alternative in public spaces and pedestrian ways of the new development.

Carol Johnson, a landscape architect, has studied the requirements for construction and maintenance in the Garden and Common, and the City is

pledged to carry out a restoration program over the next few years. In addition, the Authority has required the developer to invest a portion of the project's art fund, amounting to $250,000 in improvements to the Public Garden and Common. The Authority engaged Carol R. Johnson and Associates to take the first major step in protecting the Garden and Common. This study identified existing conditions and problems, and then set priorities for the City's affirmative actions.

Effect of Shadow

The creation of shadows has been carefully studied and reviewed. Shadows will make almost no penetration during the late spring and summer, and will have no substantial effect in early spring and late fall. There will be less than 5% coverage at any one time in the area with the area covered changing continually throughout the day. Shadow will cover significant

but changing portions of these parks only during late November, December and January, when no growth takes place. A series of nine diagrams indicating the shadows at various times of the day and year, prepared by Davis, Brody and Associates, documents these conclusions.

A number of authoritative sources were consulted to review the effect of shadow on plant life. More often than is generally realized shade is not the liability it is thought to be. Floral color is the only feature which must be sacrificed in shade. While greater opportunities prevail where there is more sunlight, under otherwise favorable conditions, a wide variety of foliage can thrive in the shade. Moreover, the effects of shade can be offset by improvements in the other prerequisites of successful planning; namely, good soil, feeding, adequate watering and pruning, or thinning practices.

It is important to remember that many factors in the plant environment affect plant growth. The plant environment constitutes all organisms, materials, and conditions that the plant is exposed to from the beginning to the end of its existence. The natural

factors which are important to plant health are listed below:

Below the soil surface

Mositure supply
Chemical element balance
Soil structure
Soil atmosphere (O_2-CO_2 balance)
Temperature
Toxic material (Soil and water pollutants except pesticides and Pesticides)
Insect damage
Pathogenic micro organisms and viruses (Bacteria, Fungi, Nematodes, Viruses, and Mycoplasms)

Above the soil surface

Temperature
Air movement (Dehydration due to excessive transpiration and Structural damage)
Atmospheric moisture
Atmospheric gases (O_2-CO_2 balance)
Pathogenic micro organisms and viruses (Bacteria, Fungi, Nematodes, Viruses, Mycoplasms)
Insect feeding damage
Saline spray--foliage contact (Ocean spray and Street de-icing compounds)
Pesticides
Light (Full sunlight, Partial shade, Heavy shade)

In addition, poor health of plant materials can be linked to faulty maintenance practices and accidental exposure to such things as snow drifts, deicing compounds, air pollutants, and soil compaction.

The following is a summary of a discussion with Professor Clifford Chater, Waltham Field Station, reporting on a review of the Park Plaza site plans

and shadow studies:

No substantial effect on plant material is anticipated from shadows cast by the proposed Park Plaza development.

Shadows cast by the proposed buildings would block direct sunlight from plants for several hours at certain times of the day. However, the plants would receive sufficient total light energy even with shadows such that plant growth would not be affected. Light energy is more significant in promoting plant growth than the amount of direct sunlight plants recieve.

Substantial shading of established plant material might affect the plants as follows: trees might flower less profusely, plant growth might be somewhat slowed, it might take longer for plants to reach maturity. The above effects would not be considerable and, thus, should not be considered as negative impacts. It should be noted that most of the flowering trees are on the North side of the Garden. This area would not be affected by cast shadows from buildings.

An improved tree maintenance program can counterbalance any negative effect on plant growth which might occur. Such a program would include: (1) a sprinkler system which would guarantee sufficient water for each tree and flower and shrub bed; (2) fertilizing all trees and shrubs; and (3) fracturing the surface of the soil in order to eliminate compaction which prevents moisture from reaching the roots.

Experts agree that shadow is not a serious problem for plant life in the Common and Garden.*

A separate effort to preserve and maintain the Public Garden and Boston Common is underway. The present deterioration of these valuable urban parks has been noted by many groups, including the Parks Department and the Friends of the Public Garden. Carol R. Johnson Associates have reported on the needs for rehabilitation of these parks to the Boston Redevelopment Authority. This report supplements the ongoing work under the direction of the Parks Department and the Committee on Horticultural Planning

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* For example, the Horticultural Department of the New York City Parks, Recreation and Cultural Affairs Administration have commented that high-rise buildings along Central Park South have had no effect on the growth of trees and shrubs along Central Park South.

for the Public Garden. Carol Johnson's report estimates that the cost to complete all necessary restoration work on both the Common and Garden exceeds $6,000,000. Since funds in the full amount are not available, a strategy for providing the maximum amount of care in the most critical areas has been developed. The parks have been divided into 8 zones and the steps toward rehabilitation of each zone have been listed as urgent, immediate and near-future priorities, and long-range programs.

Park Plaza has focused attention on the Public Garden and Common that is long overdue. All studies and reports reiterate that neglect and a lack of maintenance funds are the source of the present deterioration. In addition, unfavorable soil, drought conditions, and soil compaction have contributed to the poor growth of many trees. The restoration of fences, replacement planting, and proper tree maintenance will have a manifold effect on the quality of these unique open spaces.

Effect of Wind

Tall buildings and building complexes can intensify and focus ambient winds. The high wind speeds thus produced can be uncomfortable and even dangerous for pedestrians and can effect vegetation at ground level. Two primary reasons for the local enhancement of ambient winds are:

-- Tall buildings reach up into regions of higher wind speed. The higher pressures thus created towards the top of a building's face then deflect winds downward to produce enhanced wind speeds at lower levels.

-- Focusing effects may be caused also by the geometry of a building or buildings.

Although the environmental wind problem is by now widely recognized, basic understanding of the processes responsible, and of possible alleviation techniques is far from complete. However, wind impacts can be controlled through building design.

There are three possible approaches to a better understanding of the problem: (1) full scale measurements; (2) computer modeling calculations; and (3) wind tunnel model tests. The main disadvantages to approach (1) are the lack of control over the various parameters of interest in the study, and also very high costs. Such an approach

is obviously feasible only for the study of already existing buildings. Approach (2) is feasible for a single building but impossibly complex for an urban environment. The third approach, a systematic wind tunnel study is the one proposed for Park Plaza. At the experimenter's discretion he can vary building geometry, aspect rations, wind direction, wind profiles and examine the impact of each parameter. In addition, quantitative measurements can be made of local air flow parameters at points of interest for various building configurations. These would include measurements of mean air speed, gust frequencies and intensities, and assessing appropriate time-averaged values of each.

The wind tunnel study will be used to evaluate alternative building configurations. The study will be concerned not only with changes in wind speed and direction within the project area, but also with the second and third order effects on nearby vegetation and on the local climate. The alternative structural arrangements will be tested to determine those with minimal adverse impacts.

The wind study will relate the building design to known wind conditions. For example, it is known that winds in the summer are predominately from the south in Boston. Any intensification of these winds due to the new buildings would

increase the velocity of wind through the area, thus having a cooling effect on the Common and Garden. In winter the converse would be true since winter winds are predominately from the north. There should be no increase in wind velocity in the Common and Garden in the winter, although some increase could occur on the southern edge of the project. Preliminary study has been based on the surface wind rose for the Boston area; further study will be based on the wind rose for the immediate project area.

Although studies of air-flow around buildings in an urban environment have centered on the effects on pedestrians, the effect on vegetation must also be taken into consideration. Excessive artificial wind can affect and possible damage plant materials.

It is commonly assumed that the project impact on vegetation will be adversebut the opposite may will be true. Reduced solar exposure and changes in existing wind patterns might very well be beneficial to the existing vegetation. For example, if soil compaction due to pedestrian traffic in the parks has reduced available ground water and nutrients for plant growth, lower rates of solar exposure and changed wind patterns may be suitable for the physiologic requirements of the vegetation. Experiences in other densely developed urban centers indicates that plant life, given appropriate

maintenance, is usually quite adaptable to urban conditions.

While it is true that tall buildings alter and amplify wind currents, these effects can be predicted through wind tunnel tests conducted during the design process and can be controlled accordingly. The BRA has made this a requirement of the design review process.

A work program for such wind tests has been developed by wind consultants (Mt. Auburn Research Associates, Inc.) to include: an analysis of the distribution of wind speeds and directions occurring at the Park Plaza site, including on-site observations and wind tunnel tests on the effects of the neighborhoring city topography; and wind tunnel tests and reduction of data for one primary model of the Park Plaza Project.

The output from the wind dynamics study will provide the following information:

- the location of pedestrian wind problem areas in the Park Plaza vicinity, including the adjacent Public Garden and Boston Common
- the average number of days per month on which particular problem wind speeds will occur at each of the above areas
- the relative contributions from each compass quadrant to the wind problems at each area of concern
- recommendations for design changes which incorporate alleviation techniques for the problem areas

Funding for the Common and Garden

At the present time, a scope of work is being prepared for a Master Plan for rehabiliation based on the guidelines and policies already developed in conjunction with the previously noted Carol Johnson report. The Master Plan would establish specific design recommendations which then would allow separate rehabiliation projects to be developed and constructed, but which would, upon completion, present a complete, harmonious restoration of the Common and Garden. Considerable money has been spent in the past on improvements; however, these were not based upon an acceptable Master Plan. The results of these past improvements has been less than what would be desired.

The following information on past and present funding should clarify any questions you might have:

Recent Capital Improvements

Boston Common:

Reconstruction of walks	$ 63,684
Repair park benches	5,555
Reconstruction of Frog Pond	137,340
Reconstruction of lawns, tree planting, improvements to entrances	65,211
Construction of children's play area in vicinity of the Frog Pond	51,469
Total	$323,259

Public Garden:

Installing of benches, chain and post fences, improvements to drainage system and restoration of the lawn areas	$ 41,629
Total	$ 41,629
Grand Total for Common and Garden	$364,888

This amounts to a yearly average of about $120,000. The necessary rehabilitation however, has required more extensive funding. In 1972, a program using $100,000 from the Parks and Recreation bond issue, matching funds from the Department of Housing and Urban Development Open Space Program (for a total of $200,000), resulted in capital improvements in the Common and Garden. These improvements included rehabilitation of the Central Burying Ground including new fencing and various repairs and the installation of 1,000 feet of fencing along Charles Street in the Public Garden which included rebuilt foundations and granite bases.

In addition to this $200,000, the Parks Department will be spending $50,000 for additional improvements to the Public Garden. These improvements include: rehabilitation of planting areas, removal of several pathways, installation of paving around several monuments and new knee rails to control

pedestrian circulation. The $50,000 is from the City of Boston Parks Department funds and is not being matched by Federal funds.

The City has an additional $200,000 from the 1972 bond issue and has applied for matching funds from the Bureau of Outdoor Recreation of the U. S. Department of the Interior The projects to be funded from these sources include:

Boston Common:	
New fencing along Park Street, stabilize eroded slope and plant trees along either side of Park Street Mall	$ 85,500
Tree planting, improve lawn areas and paving along and adjacent to MacArthur Hall	64,500
Total	$150,000
Public Garden:	
Rebuild remaining fencing along Beacon, Arlington and Boylston Streets	$250,000
Total	$250,000
Grand Total	$400,000

A continuation of this ambitious program of rehabilitation in conjunction with a Master Plan is being organized. The Parks and Recreation Department has requested bonding from the Boston City Council for an additional $300,000 to be matched against $300,000 more of

HUD, BOR and/or National Park Service funds. If this is voted by the Council, we can thus expect to have a total of $600,000 (above and beyond the '72 bond issue funds) for new improvements in the Common and Public Garden from the 1973 bond issue.

The Carol Johnson Associates report identified rehabilitation projects which would completely restore and upgrade the Common and Garden for a total cost of $6 million. An additional resource commitment of $600,000 yearly is a first step toward meeting the requirements of upkeep and improvement in the Boston Common and Public Garden.

INVENTORY OF PLANT LIFE
THE PUBLIC GARDEN AND BOSTON COMMON

The Public Garden

Eighty different kinds of trees grow in the 24 acres of the Garden. Although elm trees predominate, there are also numerous examples of beeches, crabapple and cherry trees, and willows around the Lagoon. Certain specimens of trees are rare in the United States, such as the large Japanese Pagoda tree near the corner of Beacon Street and Arlington Street. Seasonal flowers are planted and cared for by the gardeners from the city greenhouse.

The condition of the plant materials varies from one part of the Garden to another. On the northern side, the poor subsoil has hampered growth and increased the effects of drought. All the plants suffer from the effects of poor or inadequate maintenance, such as insufficient watering, lack of essential chemical elements, and lack of soil aeration.

The Carol R. Johnson Associates' report on the rehabilitation of the Common and Garden noted the condition of each tree. Approximately 3 percent of the 580 trees in the Garden have died while another 22 percent are in poor condition.

The Boston Common

About 15 kinds of trees grow within the 50 acres of the Boston Common. Elm and linden trees are predominant, but there are also many examples of maples, oaks, and cherry trees. The species present include:

American Elm
Beech
Cherry
Laburnum
Linden
Maidenhair
Elm (Ulmus Procera, Glabra, Thomasi)
Holland Elm
Honey Locust
Oak
Sugar Maple
Yellowwood
Maple (Acer Platanoides, Pseudoplatanus, Schwedleri, Saccharinum)

The condition of the plant materials varies across the Common. The structure of the subsoil on the northern side increases the effects of drought. The areas most heavily used are also the areas in which growing conditions are worst. Compaction of the soil near the Park Street subway and the Soldiers and Sailors Monument, for example, has aggravated the condition of trees in those areas. The trees bordering Charles Street, including the recently planted maples and maidenhair trees, are having difficulty surviving due to the condition of the soil and the proximity of the roadway.

The plant materials in the Common also suffer from poor or inadequate maintenance. The Carol R. Johnson Associates' report notes that nearly 40 percent of the 730 trees in the Common are in poor dondition while 6 percent have died.

C 2. IMPACT ON SURROUNDING LAND USES

The Park Plaza project will transform this section of Boston from a deteriorating, unsightly area to a unified, attractive new development. The hotel, office, and retail activities will fill in the commercial gap between the Central Business District and Back Bay, adding new economic life for the entire core area. Also, the provision of high quality, modern cultural and entertainment facilities will improve the opportunities for evening and convention activities.

The vast possibilities of meeting the needs of the City and the people in the City Core Area can be realized through continued growth and change like that in Park Plaza. Over the next 10 years, jobs in the Core Area may increase by more than one-fourth, and 12 million square feet of office space, 3 to 4 million square feet of commercial space, and 4,000 hotel accommodations are under construction, planned, or proposed. Park Plaza is scheduled to provide 9 percent of this growth in office space, 11 to 15 percent of this growth in commercial space, and one-fourth of the additional hotel accommodations. The prognosis of growth in retail trade activity in the City Core Area flows from an analysis of recent trends and patterns, and the prospect that the decline of its traditional role in the metropolitan region market will be supplemented by expansion in downtown jobs, resident population and visitors.

Although Park Plaza will greatly enhance the downtown area, an effort has been made to identify those aspects of the project which have the potential for creating adverse impacts on the surrounding area.

IMPACT ON COMMERCIAL AND RESIDENTIAL MARKET

The impact on the commercial and residential marketing be summarized as follows.[1]

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[1] A more elaborate description is included under "sound needs of the locality" which is included in the Park Plaza submission.

The central business district's share of retail sales has suffered as a result of suburban retail competition and is now more dependent on the "captive market" - office employees, downtown residents, and tourists and business visitors.

The ability of the C.B.D. to attract additional suburban shoppers will significantly depend on the drawing force of such new developments as Faneuil Hall Market, Park Plaza and South Station development.

Retail sales in the Back Bay Area have grown substantially in the last decade in large part as a consequence of the Prudential Center which has brought additional people into the area.

Park Plaza will directly benefit the surrounding retail establishments as a consequence of the expenditures made by site residents, employees and hotel visitors.

Park Plaza will indirectly benefit the area through elimination of blighting uses and the provision of a new attractive force in downtown.

Park Plaza will eliminate certain adult entertainment uses which act as a deterrent to shoppers. The new project will provide safe connections, free of deteriorated buildings and unsafe intersections, between Back Bay and Washington Street, between South Cove, Bay Village and the retail district and Common and Garden.

There is a very high potential demand for new luxury housing and Boston's capacity to capture that demand is limited by its ability to create suitable sites like Park Plaza.

New residents add vitality to downtown living. Theaters, cultural and related activities benefit from the additional support of a growing population and the entire housing market should therefore be greatly enhanced.

Impact of Project Design on Surrounding Area

The new development will be integrated as much as possible with the surrounding areas. This integration will be achieved through the use of compatible building materials, through continuation of the "high spine" of Boston, and through appropriate design controls.

The color and scale of building materials will relate well to the existing architecture of Boston. The scale of the buildings and the types of uses along Boylston Street are to be carefully related to the

adjacent Common and Garden. A maximum height of 125 feet within 80 feet of Boylston Street has been set in the Land Use and Building Requirements. The new development will become an integrating element providing a transition from each of the surrounding land uses to the next.

The evenly spaced high-rise structures of Park Plaza will continue Boston's "high spine". The scale of development proposed for Park Plaza is entirely consistent with the guidelines which have been established for new development in the City of Boston. These guidelines call for intense development along the high spine, a linear corridor paralleling Boylston Street from Prudential Center to Washington Street and then turning north through the financial district to the Government Center, roughly coinciding with the main rapid transit routes. If intense development is channeled along this linear corridor, development pressure on the surrounding area - in Back Bay, Bay Village, and the Chinese community - can be reduced. Downtown housing will be preserved through channeled rather than haphazard development.

The present project area is a gap in the high spine where land is seriously underutilized. The new development will increase the intensity of land use five to six times.

Appropriate design controls to ensure the integration of the new project with existing Boston development have been set. The multi-use complex will reflect the major uses in the immediately adjacent neighborhoods. The lower elements will be built close to the street lines so as to maintain the dense urban character of the area. Pedestrian easements providing public pedestrian access to the subway mezzanines, along Boylston Street in the arcade, and across Charles Street are required. Another requirement is a visual easement along Columbus Avenue to preserve the view of the Park Street Church steeple from Columbus Avenue.

The predominant visual impact of the project will be its towers, their relationship to the city skyline as a whole and their effect as an element of, or above, a local area. From an entry to the City, e.g. the turnpike from the East, the Longfellow bridge from the North, and Columbus Avenue from the South-West, Park Plaza will be apparent as a cluster of towers equal to the Prudential Center, the Hancock towers and the Central Business District clusters and as such, a further link in the chain of the high spine stretching from the Prudential Center to the Government Center. With the addition of the Park Plaza complex, Boston's skyline will take on a form, as unique as was Boston's original topographically determined street pattern from the contemperaneous grid-irons of other American cities.

At the local scale the project's primary relationship is that with the Common and Garden. A town square or plaza is defined by the buildings that surround it. At present the Common and Garden is only defined by the peripheral streets. The Park Plaza complex will establish a specific relationship of the Common and Garden to built structure; the complex will visually fix the southern boundary of the Common and Garden. The complex will also serve as a point of orientation around the 5 sided open space.

The first effect of Park Plaza will be the removal of the unattractive uses and deteriorating buildings near Park Square and the elmination of the excessive roadway area. The scale of the surrounding neighborhoods, Back Bay, Bay Village, and South Cove are respected by the low element of Park Plaza at the periphery which acts as a transition from the adjacent neighborhood to the towers. Although these nearby communities are separated from the project area by a border of non-residential uses, the project will have an obvious visual impact on these areas. The design itself is exceptionally sophisticated in its handling of three dimensional form as evidenced by the interplay between the towers, each of which responds to its neighbor and to the whole. The towers define and enclose space, an effect achieved by their asymmetrical and non-rectilinear layout and form, in contrast to the grid-iron patterns determining more traditional tower clusters.

The architectural plan has been reviewed by the Design Advisory Committee to the Authority (a group of eminent local architects). The Authority review will continue throughout the period of redevelopment. To this end the Authority has insisted upon a design review process which includes approval of several stages of design submission from schematics through final drawings. The Design Review process will focus particularly on design aspects that will affect the environment of not only the project area but of the surrounding environs: impact of shadows, traffic, both vehicular and pedestrian, connections through the project area, the interrelation of the design to its neighbors and provision for all-weather enclosed walkways and public spaces.

The impact of shadows will be minimized through careful massing and design. Shadows are an unavoidable effect of construction of a building, however. The increase in shade will not have a significant effect on the growth of the plants in the Common and Garden as noted in the preceding section. The effect of the varying degrees of increase in shade, however, will significantly effect the potential for human enjoyment of the Common and Garden, particularly in the winter months when shadows are at a maximum. Since the effects of shade on park use are of a subjective nature they are difficult to quantify. However, one way of evaluating the psychological impact of shadows is to determine to what degree they affect the major human uses of the Common and the Garden. These uses can be described as strolling (or walking) and sitting; therefore by studying shadow effects on the main pedestrian paths and sitting areas one can arrive at a measure of the extent of psychological impact.

In those terms any adverse psychological impact during late spring and summer must be seen as minimal since there is virtually no increase in shade (at 9 a.m. on June 21st Park Plaza would cause approximately 40

square feet of the Garden to be shaded, at noon approximately 25.000 square feet would be shaded and by 3 p.m. none).

During late fall, winter, and early spring there will be significant impact in the afternoon on the southern third of Tremont Street bordering the Common which is presently unaffected by shade. The major path running from Commonwealth across the bridge over the Lagoon to Charles Street would also be shaded in the morning. There will also be a significant impact on Boylston Street, but it must be remembered that both sides of Boylston Street are presently three-fourths in the shade during most of the day in late fall, winter, and early spring.

There are no major sitting areas in the border of the consequence of the Brewer Fountain area in the Common which is presently shaded by "Tremont on the Common" each afternoon during the late fall through early spring (there has been remarkably little comment or complaint concerning this fact). However, there are benches scattered along the paths of the Garden. Those situated in its southern half will be affected by cast shadows during the season under discussion; but even then, as the shadows shift, there will always be some benches in the sun and an opportunity to enjoy it. Winter winds and low temperatures severely limit the number of days during which sitting outdoors is comfortable during these months. Therefore BRA believes that the positive effects of the Park Plaza project as described in various sections of this report more than offset the effect of shadows, particularly since the major effect is limited to the winter when the use of the area is least intensive.

IMPACT ON TRANSPORTATION

The Park Plaza project will have some impact on the Boston transportation systems. The increase in demand on these systems that will be created by the new development will be offset by the improvements included in the urban renewal plan.

Inherent to the Park Plaza plan is the relocation and reconstruction of streets and utilities. Especially important will be the creation of a new Charles Street, replacing the confusing and dangerous pattern of present Park Square, and the widening of Stuart and Kneeland Streets. New lighting, police, fire and traffic signals and water and sewer facilities will replace existing outmoded and insufficient utility systems originally installed as long ago as the mid-19th century.

The plan also calls for a new pedestrian circulation system through the area, a system which will provide an enclosed climate-controlled, traffic-free passage from Arlington to Washington Streets. A new public square will be created between Boylston and Stuart Streets at Charles Street. This square will face the Public Garden and Common to the north and the South Cove to the south and be surrounded by stores, restaurants and cafes, creating activity sixteen hours per day. Kiosks, exhibits, sculpture, and outdoor dining areas will create a human and active square rather than a stiff ceremonial plaza.

Funds have already been allocated to the MBTA for improvements to the rolling stock and signalization of the Green Line which serves Park Plaza. The MBTA says that these improvements should alleviate the peak hour problems which will result from increased development activity in the Back Bay, including Park Plaza. It is recognized that this expenditure will not obviate the need for additional improvements to the Green Line in future years, and the MBTA says that it has recognized this requirement in its master plan for the future.

Certain aspects of the Park Plaza development are beneficial to improved rapid transit service: residential, retail, and hotel uses create nonpeak hour ridership which lead to a more efficient utilization of MBTA facilities and equipment.

The developer has retained Barton Aschman as traffic consultants to the

project. This firm has been involved in transportation planning throughout Boston and is well qualified to study not only the local problems of Park Plaza but the project's compatibility with the entire Boston road network. They studied the street capacities to determine the maximum allowable development program and the proposed development plan is consistent with that study. The consultants concluded that the project can be designed "to incorporate the facilities and operating characteristics needed to provide a balanced transportation system which meets the needs of the City of Boston, the neighborhoods around the site, and the development itself".

They further state that "the street network serving the site together with the proposed alignment and cross section changes to such streets as Stuart, Charles and Providence provides the required capacity to carry the increased traffic".

The project will improve traffic flow by replacing the present antiquated street pattern with more direct routes. The primary change will be in the area of Park Square itself where New Charles Street will be constructed to provide straight north-south traffic flow through the project area. Also, an underground road and loading dock system separating vehicular activity and truck and service access from pedestrian traffic will be developed.

In addition to the specific improvements proposed within the Park Plaza Area, a number of City and regional efforts will also deal with the traffic situation. The State has made a major commitment to allocate funds to rail and commuter systems rather than for major highway expansion; thus, making travel by rail more accessible and discouraging reliance on the automobile. In addition, the BRA has proposed a zoning amendment to remove the requirement for ancillary parking in new commercial development and to establish very stringent conditions before new garages can be constructed. There are also a number of regulatory measures being considered which are aimed at discouraging illegal parking in and around Downtown.

The following sections discuss in detail the increase in pedestrian use of the area, the effect of the project on the MBTA system, and traffic generation in the surrounding area.

Impact on Pedestrian Traffic

Pedestrian flows in the Park Plaza area will be determined by the activities and intensity of uses in the area. The density and generation of pedestrian traffic are directly related to the density of contiguous development and to the amount of floor space available for each type of activity.

The number of persons entering and leaving selected facilities in the CBD have been utilized to estimate the impact of the proposed land use changes. These facilities were selected for their similarity to the land uses being proposed for the Park Plaza Project. These data are presented on the following page, and were used to supplement information which is available from other cities. Original information collected and analyses from the moving sidewalk study[1] was used to estimate peak hour or peak quarterly hour volumes that would likely be generated by the proposed new land uses. It can be seen from this information that the pedestrian generation of the Parker HOuse and Statler Hotels is extremely consistent, particularly for the peak hour and maximum 15 minute interval within that peak hour. Each of these hotels generates a total of approximately 25 movements per 100 rooms during the maximum 15 minute interval.

The Jordan Marsh Department Store data shows a total "in and out" movement of 3.3 persons per thousand square feet of gross retail floor area during the maximum 15 minute period. This is approximately 28% of the total peak hour in and out movement. It should be noted that

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[1] "Feasibility of Moving Walks/Boston A Transportation;" Murray D. Segal, 1971

data for Jordan Marsh includes only those persons entering and leaving the main building at the street level and from the MBTA connections. Data for the State Street Bank Building suggests almost a complete turnover of the employee population between the hours of 4:00 and 5:30.

TRIP GENERATION DATA SUMMARY

	OBSERVED TRIP GENERATION		
FACILITY	4:00-5:30 P.M.	4:30-5:30 P.M.	Maximum 15 Minutes (4:30-5:30)
Parker House Hotel	121 per 100 Rooms	91 per 100 Rooms	25 per 100 Rooms
Statler Hilton Hotel	135 per 100 Rooms	90 per 100 Rooms	25 per 100 Rooms
Jordan Marsh Dept. Store (Main Building Only)	16.4 per 1000 sq. ft.	11.6 per 1000 sq. ft.	3.3 per 1000 sq. ft.
State Street Bank Bldg.	44 per 10,000 sq. ft. 99 per 100 Emp.	30 per 10,000 sq. ft. 85 per 100 Emp.	17 per 10,000 sq. ft. 37 per 100 Emp.

NOTE: Figures shown represent total number of entering and leaving pedestrians at each facility

These rates for the generation of pedestrian trips have been used to estimate the number of daily trips. The expected proportion of trips by automobile and by public transit are as follows:

All day one-way trips

	Transit	Auto	Total Person Trips
Peak Period	10,500	3,000	15,000
Off-peak	8,500	5,660	17,000
Total	19,000	8,660	32,000

(These figures assume 70% transit usage in peak periods and 50% in the off-peak, and a vehicle occupancy of 1.5 persons per auto).

The 32,000 one-way person trips originating or terminating within Park Plaza also represent the total number of potential pedestrian movements generated in and/or from the new development.

Of these 32,000 one-way person trips it is possible to classify them as either work-related trips or business, shopping, resident, and visitor trips. The trip characteristics of these two classifications are distinct.

The most important factor in the characteristics of pedestrian trips is the location of the major pedestrian generators. The location of the primary and secondary pedestrian corridors to, within, and around the development depends on the layout and design of Park Plaza. Currently, the plans indicate that the major pedestrian generators, especially the office development, are on the periphery of the project area adjacent to the Arlington Street, Boylston Street, and Park Street MBTA stations. The proposed hotel is adjacent to Stuart Street - and would also be serviced by the Arlington Street MBTA station. Present plans include an extensive, covered, and climate controlled pedestrian walkway that would traverse the project area both east and west and north and south, connecting Back Bay and the downtown. Recommended transit connections directly into the project area and into the walkway system will also affect the location of pedestrian movements, particularly with respect to the Common and Public Garden, and should therefore be endorsed.

The extensive, covered and climate controlled walkway system, particularly the Galleria along Boylston Street, will have a very demonstratable impact upon the locational characteristics of pedestrian movements. Properly designed with an attractive and exciting pedestrian environment and convenient transit connections, this facility will offer a protected and attractive alternate route for the primary pedestrian corridor along the edge of the Common and Public Garden. The location of the entrances and exits of the walkway system can be designed to control access into this open space and thus channel the major pedestrian movements into defined corridors.

Pedestrian Corridors

-Work Trips

As indicated previously, it is anticipated that 70% of the work trips generated in the peak hours by Park Plaza will be serviced by public transit. As the location of the Arlington Street, Park Street, Boylston Street and Essex Street stations are on the edge of the project area, it is projected that these movements will enter and/or depart directly from the project area with a minimum of cross movement through the Common and Public Garden. Increased loading at these stations may result in occassional overflow pedestrian activity immediately contiguous to these stations. It is anticipated that the major circulation axis of the Common currently in use would adequately service the new directional requirements to the MBTA stations from the project area. However, the provisions of a protected, climate controlled galleria along Boylston Street will divert from 60 to 90% of these trips dependent upon weather from the Common area.

-Business Resident Shopping and Visitor Trips

It is projected that 17,000 one-way trips in this category will be generated by the Park Plaza development, of which 50% will be serviced by public transit and the balance by auto. Current plans include parking within the project area, but undoubtedly, the Common Garage will be heavily utilized as well. The nature of retail, restaurant and entertainment uses within the project area will determine the periods as well as character of pedestrian flow to and within the area. It can be expected that a higher percentage of pedestrians in this category may use the Common and Public Garden due to the less rigorous and formal quality of these trips. It can also be expected that the duration of these pedestrian movements within the project area and the Commons-Public Garden will be longer and

with lower turn-over thereby resulting in greater accumulations, particularly during midday to early evening.

The Green Line

A total of 10,500 one-way trips during peak periods via transit are expected to be generated by Park Plaza. One-way trips are defined as trips in one direction and the total would represent the summation of all directions. Since there are but two directions involved (to Park Plaza and from Park Plaza), there are 10,500 one-way trips to and from Park Plaza. It therefore follows that there would be 5,250 one-way trips to Park Plaza and as many from Park Plaza. Peak periods are those intervals of time during which the majority of one-way trips occur. As Park Plaza is expected to follow the normal pattern of the downtown, the one-way trips during peak periods to Park Plaza would occur during the a.m. peak period and the one-way trips during peak periods from Park Plaza would occur during the p.m. peak period, there being but two peak periods in the course of a normal business day. This translates to 5,250 one-way trips in the a.m. peak period and as many in the p.m. peak period. In the most extreme case, the a.m. peak period would occur within the space of 1/2 hour, as would the p.m. peak period (thus making "peak periods" equal to 1 hour). These 5,250 one-way trips would all be confined to this 1/2 hour period which would be equivalent to a rate of 10,500 one-way trips per hour.

If these one-way trips were evenly distributed over the three stations adjacent to Park Plaza (Essex, Boylston and Arlington), each station would have to handle a rate of 3,500 one-way trips per hour or 3,500 passengers per hour as each passenger would make only 1 one-way trip under normal circumstances. As many passengers would be expected to arrive at these stations from the outbound direction as from the inbound direction in which

case they would have come from the other end of the line or connections with the Red and Blue Lines. This means that passengers would be arriving at these stations at a rate of 1750 passengers per hour in each direction. The additional load at the two Green Line stations (Boylston and Arlington) would impose additional demand upon the Green Line at a rate of 3,500 passengers per hour in each direction in each peak hour.

Improvements now in progress will insure the ability of the Green Line to handle this additional demand. Current scheduled headways (the interval between trains on the same track) are approximately 64 seconds which calculates to a rate of 18,850 passengers per hour. New articulated light rail vehicles, tracks and signaling system can eventually reduce this to a 45 second headway at a rate of 37,120 passengers per hour per track, with Watertown and replacement corridor services helping to achieve this rate. Initially, with 150 new articulated units supplemented by 50 1952-built picture window PCC cars and 25 all-electric PCC cars, a 60 second headway can be maintained at a rate of 23,556 passengers per hour. This is a 25% increase (4,706 passengers per hour) over existing capacity, which would be sufficient to serve existing traffic plus the additional traffic due to Park Plaza (these sum up to 22,350 passengers per hour) and still allow for increases in traffic due to growth in the Green Line service area. This capacity will gradually increase as more PCC cars are overhauled and returned to service or as additional light-rail units are purchased, permitting new services to be added until the eventual rate is reached.

For purposes of comparison, a 30 second headway was operated on the Green Line by the Boston Elevated Street Railway Company in 1946, indicating that tunnel capacity is not the problem as long as sufficient and dependable equipment is available.

In addition to the 10,500 one-way trips expected to occur during peak periods, an additional 8,500 one-way trips are expected to occur during off-peak periods for a total of 19,000 one-way trips during the course of a day. Even distribution over the three stations would mean 6,334 one-way trips per station. By the preceding definitions and analyses, there would be 3,167 passengers from Park Plaza at each station. This number would be comparable to the MBTA definition of "one-way traffic" which is the number of fares collected at the station turnstyles. Of the three stations, Arlington is the busiest, handling a one-way traffic of 16,415 per day in 1971. With the addition of the Park Plaza load, this figure would reach 19,582. This is less than the 21,800 handled in 1947 and this station capacity is not expected to be critical assuming a similar distribution of this traffic over the day.

If the A.M. or P.M. peak period were 1/2 hour in duration and passengers arrived at even intervals, an additional 29 passengers per train initially would alight in the A.M. and board in the P.M. on each platform of each Green Line station due to Park Plaza. If the A.M. or P.M. peak period were 1 hour in duration, this figure would be reduced to 15 passengers per train.

Should Park Plaza achieve further growth, or its transit modal split exceed 70%, or Green Line traffic increase it may become necessary to stagger work hours or the work week, or install high platforms in the Green Line stations (for which the new cars are designed), or construct the proposed Blue-Green connection which has a station located in the middle of the Park Plaza site on Columbus Avenue, in order to handle the increased load.

The Orange Line

The MBTA is currently seeking to purchase 44 new cars for the Orange Line. They hope to receive approval from UMTA within the next month to

a month and a half. Delivery of these cars would be in 2 1/2 years from the time of approval. The new cars will be 10 feet longer than the present 55 foot cars and will incorporate many of the latest advances in technology and comfort. They will be used on the Haymarket North Extension and will supplement the existing fleet which will be modernized.

The Haymarket North Line is scheduled for an early opening to Sullivan Square Station by January of 1974. The full line to Oak Grove Malden should be in operation by early 1975.

The coverage of the Orange Line will be greatly increased as will line capacity. Many riders who now use autos, buses or trains and transfer to the Orange Line at Sullivan Square and North Station will have access to the Orange Line closer to their point of origin. New riders to the system are expected to comprise 10 to 20% of the present North Orange Line volume and will utilize excess existing capacity and new capacity.

Initially, the large ultimate increase in capacity will not occur because of the need to remove existing vehicles from service for modernization. Once this process is complete a 50% increase in capacity over what is provided today will be available.

With the opening of the Southwest Corridor line beyond Forest Hills and its branches to Needham and Canton, an approximate halving of headways over that provided today will be realized. While this may seem excessive, it becomes less dramatic when compared in absolute terms to the Green or Red Line. The large percentage gain is made possible because present line potential is underutilized due to declining ridership.

If the Needham Extension were built from the existing elevated structure as in the official MBTA Master Plan it could be opened in 4 years. If it were built according to the Governor's recommendation, it would take 8 years to reach Forest Hills. This time could be decreased if dual power vehicles were used.

Traffic Generation in the Surrounding Area

Automobile traffic from Park Plaza can be estimated in two ways - either by examining the activities themselves and determining the travel they will generate, or alternatively, by calculating the flow through the garages and from curb parking spaces. The difference between the two procedures may be substantial, and both have been considered, but the consequences for any one street are not substantial since on a series of successive days, counts can be taken at the same time and place which differ quite widely.

Based on the activity patterns and travel approach, about 1500 P.M. peak period would be generated by the project. The peak period is about two hours' duration with 60 percent of travel in the actual peak hour, or 900 vehicle trips. We further assume 200 residents returning to the project possibly creating a total of 1,100 peak hour vehicle trips.

The current (1972) P.M. peak hour traffic count on all streets in and out of the project area totals 7,370 trips. Thus the gross total when the project is built may be around 8,470 trips. However, 2000 parkers now park in the project, and we must subtract these trips from the current flow. During a two hour peak period this space would turn over entirely, generating 1200 trips in the peak hours. We might assume half of these previous trips or 600 vehicles would still pass through the site area, thus the net increase in trips from Park Plaza would only be 500 trips in the evening peak hour (i.e., 1,100-600) or a 7 percent increase over 1972.

Garage turnover

On the alternative approach, the new commercial parking, some 1,800 spaces, might turn over entirely within a two-hour period, with 1080 vehicles departing in the peak hour and 200 vehicles arriving. We might also assume that none of the existing parkers would relocate, and also that some 300

curb and waiting zone parkers would turn over in the peak hour. The total new traffic generated on these assumptions would be 1580 vehicles or a 21 percent increase in the evening peak hour. This figure is a gross exaggeration dependent on the unlikely event that all existing trips would continue to be to and from the site area, rather than elsewhere in downtown.

Thus, the main difference in the two approaches lies in whether or not existing traffic generated by the present project area is assumed to move away entirely, partially or not at all. It is unlikely that the last, most extreme situation would occur, but it is described in order to demonstrate the worst possible situation and the actual situation may be somewhat higher than the projections shown.

Assignment of this traffic to particular corridors or streets is difficult, but approximate assignments have been made to demonstrate the orders of magnitude involved. Clearly, if any particular street is felt to be overloaded, actions to prevent this can be taken. In addition, it must be remembered that none of the traffic projections or assignments are able to take in the effects of the Governor's transportation policy or the Environmental Protection Agency's clean air strategy, neither of whose consequences are yet explicit, but which are likely to cause drastic moves away from recent auto-oriented transportation trends.

Tentative P.M. Peak Period Traffic Assignments

of Park Plaza Additions to Automotive Traffic

	1972 volume	increment
Charles - n	1,500	152
Boylston - e	1,200	58
Kneeland/Stuart - s	1,500	189
Kneeland - n/w	500	58
Arlington - s	1,100	51

Tremont - s	1,450	72
St. James - e	120	145
	7,370	725

Source: BRA Transportation Planning Department

Based on the assignments derived, it is clear that the street system can handle the peak hour traffic with no problem. On Stuart Street, the most heavily travelled street, there will be an increase of about 3 vehicles per minute in one direction and 1 per minute in the other. Charles Street will carry about 2-3 extra vehicles per minute in the peak hour. Of the incremental traffic, about 30-50 percent would use major expressways to leave the city. This would be about 30 percent to the west, 30 percent to the south and 20 percent each to the Northwest and North Shore. The maximum additional loadings in the P.M. peak hour is estimated to be as follows:-

	#	%
Mass Turnpike/Storrow Drive	237	0.29
Southeast Expressway	237	3.53
Mystic Bridge/Callahan Tunnel	158	2.15
Route 2, I-93	158	n.a.
Total	790	

Note that these figures represent an absolute maximum of loadings on these routes.

Impact on Surrounding Communities

The Park Plaza Project will have several minor impacts which are of concern to the communities of Back Bay, Beacon Hill, Bay Village, and Chinatown. The impacts in the areas of retail activity and the housing market are discussed in detail in the "Report on the Sound Needs of the Locality." The impacts due to possible increases in traffic have been discussed above, and include the South End community as well. The BRA analysis in these areas has concluded that the project will bring no major socioeconomic change to these communities. The following sections discuss the relationship of each neighborhood to the Park Plaza development.

a. Back Bay

At its nearest point, Arlington and Boylston Streets, the Back Bay lies adjacent to the proposed Park Plaza Project. The furthest point of Back Bay is in excess of 1 mile from the project area.

The portion of the Back Bay in closest proximity to Park Plaza is the Boylston-Newbury Street area. This is the commercial district of the Back Bay. Boylston Street is characterized by office and retail uses. Newbury Street, on the other hand, is distinguished by specialty retail uses such as boutiques and art galleries.

The residential area of the Back Bay extends from Commonwealth Avenue to Back Street. This residential area is a composite of private residences, dormitories and institutional uses.

Over half of its population is in the 18-24 age group and approximately 60 percent of this age group is employed. Coinciding with the predominance of young people the dwelling unit size and household size are small. About 40% of the residents of Back Bay live alone; there are few families in the area. Within the last five years, 80% of the current residents have moved into Back Bay. Almost all of Back Bay is devoted to rental units, and the high vacancy rate at the time of the 1970 census reflects the

transient nature of the student population. Rent levels are above average here, but the rate of increase is the same as the rate for the rest of the City. Back Bay is the residence of many professionals and managers, and the income level and level of education are correspondingly high in this community.

The major trend in the Back Bay residential area is the dramatic increase in youth; both students and professionals. Other significant trends relate to conversion of the outstanding apartment houses to condominiums and a slow downward trend in the number of educational institutions. Looking to the future, the Back Bay community would like to see some of the institutional properties returned to residential use. Appropriate office, commercial, retail and institutional uses would be encouraged to locate on Newbury Street.

A review by the BRA of the problems presently affecting Back Bay indicated four major areas of concern: enforcement, services, development and design quality, and institutional change. An evaluation of the project impact of Park Plaza Project on these problems indicates that over all the most serious effect will relate to increased pressure for zoning changes, restaurant and liquor licenses and some additional traffic. While the former two impacts can be controlled through zoning, the design review process and the liquor licensing board, the latter problem, traffic, can only partially be mitigated by enforcement and improvements to some existing intersections. Potentially, the most positive impact will be to re-enforce the commercial quality and to encourage the redevelopment of Boylston Street, all through high-quality design.

Of the seven problems relating to enforcement; sign control, housing inspection, sanitation inspection, will not be affected to any significant extent by Park Plaza.

The following conclusions are proposed with respect to the four problems where an impact has been predicted.

Zoning i.e. increased pressure for zoning changes allowing for an increase in height and FAR.

The proximity of Park Plaza to the Back Bay might lead to increased pressure to exceed the height and FAR limits presently in existence in the Back Bay. The Board of Appeals and the Design Review process should on the other hand, provide the proper controls.

Restaurants, Liquor Licenses In terms of this factor, the impact will probably be minor and of an adverse nature, a possible increase in the demand for liquor licenses and restaurants. This impact, on the other hand, can be controlled through the Licensing Board and the Zoning Board of Appeals.

Taxes The impact, while minor, will be beneficial since the value of this development will increase the taxable property in the city.

Traffic The peak hour flow will increase very slightly as previously indicated.

A second major area of concern is the impact of Park Plaza on existing services. The impact in all cases would be minor but the city must be prepared to provide a high level of services as required by the new project, including but not limited to police, trash, problems of dog litter, etc.

b. Beacon Hill

The Boston Common and the Public Garden provide a natural barrier of almost 1/3 of a mile between the proposed Park Plaza development and the beginning of the Beacon Hill community. The furthest point of Beacon Hill, the North Slope, is located approximately 1 mile from Park Plaza.

The section of Beacon Hill in closest proximity to Park Plaza is what is known as the South Slope. The homes in this area are among the finest found anywhere in Boston. A large percentage of these homes (13%) are owner occupied. The occupants are largely middle-age families

and elderly although in recent years there has been a significant increase in young persons between 20-24 years of age. In spite of this population change, 20-29% of the population has resided in Beacon Hill for five years or more.

Beginning at Revere and Myrtle Streets, and extending to Cambridge Street is the North Slope section of Beacon Hill. This area is characterized by a youthful population of unrelated individuals living in rented units. The environmental conditions in this subarea - building maintenance, sanitation, parking congestion - are a problem in contrast to the South Slope which is basically in sound condition. Overall, the density of the South and North slopes slope residential areas range between 54 and 153 dwelling units per acre.

The commercial areas of Beacon Hill are located along Charles and Cambridge Streets. The major retail uses on Charles Street in order of frequency are antique stores, eating and drinking establishments, apparel, office, retail, and service establishments. With the exception of the antique stores, the majority of the retail uses along Charles Street are of a local business nature.

The Cambridge Street shopping area contains the largest commercial uses in the community. Among the stores are a Stop & Shop and the Charles Street Cinema.

A review of the trends of population, housing and retail uses indicates that Beacon Hill is a vibrant community whose population and housing stock have been adjusting to the city-wide trends towards a younger population and smaller household. The commercial district of Charles Street is the only area of the community which has been experiencing a decline as evidenced by a high rate of vacancies and turn-over of retail establishments.

A review by the BRA of the problems presently affecting Beacon Hill

indicated major areas of concern paralleling those of Back Bay, including enforcement, services, development and design quality, and institutional change. The conclusions previously cited as to the proper response to predicted impacts apply to Beacon Hill as well as to Back Bay.

c. Bay Village

Bay Village is a small historic neighborhood bounded by Stuart, Charles Street South, Tremont and Arlington Streets and it is generally comprised of small brick townhouses. This area, in the past eight years, has been changing rapidly with an increasing number of houses being purchased as in-town residences. There still remains a large number of elderly persons and a diminishing number of students.

Since the neighborhood became part of the South Cove Urban Renewal Plan, the BRA has attempted to restrict traffic to local traffic and route through traffic onto perimeter streets. More than $1 million has been spent on utilities and street improvements ranging from brick sidewalks to gas lights to tree planting to a small park and repavement of streets. Nearly all the streets within Bay Village have been redone and work is now proceeding on through streets that ring the area.

Public improvements have helped to encourage a large number of private and federally financed housing rehabilitation loans. A new fire station has been constructed at Columbus Avenue and Isabella Street and a new grammar school and community center is being designed for Shawmut and Oak Streets. In addition to the new park being constructed at Broadway and Fayette Street, a large plaza is proposed for an area south of the Hotel Bradford.

Residents of Bay Village are generally concerned with enforcement and services for their neighborhood. These concerns include problems due to possible increased demand for liquor licenses, increases in traffic, overflow parking, and the relationship of Park Plaza to the

community. Traffic planning and commercial expansion in the area must respect the residential nature of Bay Village. Park Plaza will have some impact in these areas of concern. The possible increases in traffic, the effects on commercial activity, and the relationship of Park Plaza to the housing market have been discussed in this report and in the "Report on the Sound Needs of the Locality." It is important to note that property values in Bay Village, which increased about 10 percent in the last decade, will be positively affected by the adjacent development, just as the North Slope of Beacon Hill was affected by the development of Government Center.

d. Chinatown

The Beach Street Area includes the commercial center on lower Harrison Avenue and Knapp Street and the residential center generally defined by Oxford Street, Oxford Place, Hudson Street and Tyler Street. Chinatown is one of the most densely populated areas of the city, as well as the primary Chinese commercial, social and civic area, and the heart of the city's garment industry.

An analysis of the land use in the Beach Street Area reveals first and foremost that the area is heavily built up, with little vacant land, and that the area is a complicated mix of uses, both from parcel to parcel and vertically within buildings. Commercial, residential, industrial and community uses are found throughout the Beach Street Area. In addition, there is 35,000 square feet of land used for parking.

The area is dominated by industrial and commercial uses which account for over 70% of the gross floor area of the area studied.

There has been an established Chinese community in Boston for almost 100 years. The Beach Street Area has been, and continues to be, the social, commercial, residential and community core of the city's Chinese population.

The Chinese commercial activity in the area, in addition to being a major source of Chinese employment, is oftentimes the only source of indigenous Chinese goods and services in New England.

An assessment of the nature and impact of the Chinese presence can be obtained by examining the land and buildings under Chinese ownership and how the Chinese use them. The Chinese presently own nearly 45% of the land and 75% of the 106 buildings in the Beach Street Area. The Chinese owned buildings run from 1 to 8 stories in height.

About one-fourth of the 490,000 square feet of space is used for restaurants, grocery stores, gift shops, and food processing concerns that are primarily located on lower floors of buildings. Nearly one-third of this space serves residential uses, primarily in upper floors of three and four story buildings. The remaining space is divided between community uses and non-Chinese rental of space.

The garment industry has been part of the Beach Street Area almost as long as the Chinese. Garment related activity in the district includes the manufacture, wholesale and retail of clothing articles, accessories and dry goods. In addition, service companies to maintain garment industry equipment, and ILGWU union offices are also located within the district boundaries. The garment industry was 30 larger buildings encompassing 400,000 square feet.

The Park Plaza Project is expected to have a general positive effect on the Beach Street area. The effects will result from the removal of unattracted uses near lower Washington Street, the stimulation of nearby retail activity and the increase in the number of people in the general area as residents and employees. Continued planning and review of the new development will insure that unanticipated adverse impacts on Chinatown will be minimized.

C.3. Topography and Hydrology

The Park Plaza foundation design must, of course, arrive at a system capable of supporting the buildings, with an adequate degree of safety. Moreover, there must be insurances that the foundation system selected and the methods used during construction will in no way damage or weaken neighboring streets, utilities, and buildings. The developers have engaged several different specialists to do the engineering necessary to satisfy these requirements which studies to date indicate can be achieved. (Davis, Brody and Associates, design architect; Golder Gass Associates, geotechnical engineers; LeMessurier Associates, structural engineers). The project area will be monitored to assure that the Park Plaza construction does not cause any movement or change in elevation (Harry R. Feldman, Inc., civil engineers and surveyers will conduct the measurements). All of the above consultants have extensive experience within the Back Bay area.

Procedures in Foundation Design

A general study of topographical and subsurface conditions for downtown Boston will be conducted. A history of the Park Plaza area including use of fill and previous land use and a comparison with other sites in Boston and Back Bay will be made.

A series of preliminary borings are made to develop a profile of subsurface conditions.

Recommendations are made for a suitable foundation design and the approximate cost of constructing an entirely safe foundation system is determined.

A more detailed boring program at the locations of the proposed foundations is carried out.

A final foundation design is developed. The design includes the methods of construction and specifies the precautions necessary to protect the neighboring streets, utilities and structures.

Soil and Rock Conditions

The boring program revealed the following stratigraphy. Below existing ground surface is a loose, sandy fill with some ash, brick, and concrete, with a minimum thickness of 5.5 feet at Charles Street at Stuart and a maximum of 24 feet to the northwest. Underlying the fill are deposits of organic silt and peat, in some areas, and a complex sequence of layers varying from silty clay to dense sand and silt, throughout. A dense glacial till deposit consisting of gravel, sand and

silt from 22 to 55 feet in thickness lies above bedrock, which is found from 150 to 160 feet below ground surface. Groundwater levels are within about 15 feet of ground surface. (report of Golder Gass Associates)

The construction of the substructure will not generate extraordinary stress loads on existing bedrock. Existing bedrock within the Park Plaza development area lies at a depth of approximately 160 feet (± 30 feet). At this depth all preconstruction work, including the laying of substructure pilings, will not significantly affect the strength of existing bedrock. Furthermore, site preparation work is not expected to produce the stress necessary to cause shifting movements in outlining areas. (Discussions with various geologists)

Water Table

The construction of the Park Plaza Project create effects in the ground water condition. In order to ensure that excavation does not lower the water table and indirectly affect adjacent structures, the developer will be required to conduct appropriate

tests both prior to and during construction and to use whatever technique is required to protect adjacent areas.

The consultant to the developer has described the problems related to the water table and the methods with which the groundwater levels will be maintained, both temporarily during construction and permanently. The discussion applies principally to the area west of Charles Street which was reclaimed during the 19th century from tidal flats and marshes; i.e., Back Bay. Although the principles involved apply elsewhere, it is in the reclaimed areas where lowering of groundwater levels are most likely to have harmful effects, permitting the deterioration of wood piles or inducing settlements in the organic marsh deposits, for example.

> "A discussion of groundwater levels in the Back Bay must begin with a recognition of the fact that at any one point in the area there is likely to be at least several 'levels'. This is due to the multi-layered nature of the subsurface which typically consists in succession from the top of (1) sand and gravel fill, (2) organic silt and/or peat, (3) natural sand and gravel, (4) clay, (5) glacial till and (6) bedrock. The thicknesess of these layers vary from point to point within the area and, occasionally one of them (with the exception of the rock) may be absent.
>
> The different groundwater levels noted above stem from the presence of the impervious clay

which separates the relatively porous fill and sands and gravels from the underlying glacial till and bedrock, which can also be pourous relative to the clay. We therefore have one set of groundwater levels in the materials above the clay, another set in the materials below the clay and still another within the clay itself. Because of the impervious character of the clay and the fact that it is generally quite deep, the groundwater levels in the clay are very seldom affected by building construction and are even more seldom of practical significance in areas adjacent to construction. Similarly water levels in the rock below the clay are seldom affected by construction or have effects on surrounding areas.

The water levels most likely to be intercepted and therefore affected by construction are those in the materials overlying the clay. Typically these are at Elevation +7 to +8 (Boston City Base) or somewhat above mean sea level. These levels are probably influenced most strongly by the Charles River Basin and Boston Harbor from a regional point of view, but factors such as leaking sewers or water mains and basement sumps may have a significant effect in local areas. For example, in the 1930's it was found that rotting of the foundation piles of the front portion of the Boston Public Library, due to lowered groundwater levels, had been caused by leaks in an old brick trunk sewer running through Copley Square along Dartmouth and St. James Streets. By placing a dam in the sewer it was possible to raise groundwater levels sufficiently to avoid damage to other wood piling, notably Trinity Church.

It is understood that present plans for the Park Plaza Project call generally for basements to be kept above present groundwater levels. There will undoubtedly be some local areas

such as elevator pits which will extend below the water level and some excavation will be required below water levels in order to install foundations. To avoid affecting water levels outside the limits of the project we would propose to employ techniques which we specified for the construction of Boston Public Library and which have been used elsewhere in the Back Bay; for example, at the Prudential Center.

First, a survey of groundwater conditions, both within the site and outside, for a distance of 500 to 1,000 feet beyond the project boundaries, would be carried out as part of the final design investigation. Outside the project area this survey would consist of shallow borings in which observation wells would be installed so that the normal fluctuations of the groundwater levels could be established prior to construction. These wells and possibly others would be used to monitor groundwater levels during construction and, if necessary, beyond.

Next, interlocking steel sheet piling will be specified for all areas to be excavated below the water level. This constitutes the first line of defense against the intrusion of water into the excavation and, therefore, against affecting surrounding water levels. However, steel sheeting, partly because of damages which may be suffered during driving, is not absolutely impervious and, although it may be sufficient to keep internal pumping required for dewatering to a tolerable level, it may not be sufficiently tight to prevent surrounding groundwater levels from being affected. Regular monitoring of observation wells will indicate if water levels are being lowered in which case the second line of defense will be invoked.

> The second line of defense will be to replace the water which is being lost from the ground to the excavation by means of recharge wells installed around the perimeter of the sheeted excavation. A recharge system typically would consist of a series of wellpoints jetted or driven at close spacing into the fill and the sand and gravel. The points would be connected to a header which would in turn be connected to a source of clean water such as a hydrant. Water flows under pressure from the source to the points, with the flow to individual points controlled by valves to increase or decrease the amount of water as required to produce the desired result. Additional points may be added to the system, if necessary. Installation of the recharge system would be specified as part of the construction contract. Operation of the system would be required only to maintain surround water levels which would be specified on the basis of the results of the preconstruction survey.
>
> Following construction the sheet piling and recharge system would no longer be required and would be removed. Those structual areas which extend permanently below grade would be designed and constructed as waterproof boxes and would therefore not contribute to loss of water from the ground and dropping of water levels. No permanent sumps or foundation drains would be installed below normal groundwater levels."

This detailed discussion is included as a means of identifying the problem as it is understood by the geotechnical engineers, Golder, Gass Associates, Inc. It is technically feasible to minimize the danger of disturbing groundwater levels.

C.4. Air Quality and Noise Levels

The impact of the Park Plaza Project on air quality and noise levels in the surrounding area is inextricably linked with the volume of new automotive activity generated by the completed project. It is also linked to energy utilization, solid waste generation and processing, and to processes and activities conducted by the users of the project. During construction (demolition, site preparation, and erection of new buildings), temporary air pollution and noise problems will be created directly by construction activities and indirectly be accompanying disruption of other activities. The severity of these problems will be limited by the vigorous application of careful controls and the selection of appropriate procedures and schedules.

Traffic Generation from the Site Area

In order to establish the most adverse condition for analysis, all traffic currently generated by the site is assumed to relocate as the Park Plaza activities are established. Some of this relocation will be to other parts of downtown, some to other parts of the City, some beyond the City limits, and some may simply go out of existence. To the extent that current site occupants actually relocate in the project, we

will have exaggerated the level of new traffic generation.

The project will contain 3,000 new garage parking spaces, and no other parking. Barton-Aschmann, in their report to Davis, Brody on traffic analysis, forecast the following demand for garage parking:

Activity	Peak Demand	Mid Morning	Mid Afternoon	Evening Peak	Late Evening
Hotel	750	450	450	600	750
Retail	425	300	425	375	425
Office	900	900	900	725	0
Residential	1,425	1,150	1,300	1,300	1,425
	3,500	2,800	2,925	3,000	2,600

(The maximum cumulative demand for parking is 3,500 spaces; employing the concept of joint use, this total demand may be met by a supply of 3,000 spaces, according to Barton-Aschmann)

During the 11-hour period, 7 a.m. to 6 p.m., the project, with 7,500 jobs and 8,500 business, shopping, resident, and visitor trips, will generate the following new trips:

All-day one way trips

	Transit[1]	Auto[2]	Total Person Trips
Peak periods	10,500	3,000	15,000
Off-peak	8,500	5,660	17,000
Total	19,000	8,660	32,000

[1] These figures assume 70% transit usage in peak periods and 50% in off-peak.

[2] 1.5 persons per auto are assumed.

Throughout the entire day, the increase in automobiles is about 9.5 percent on the streets surrounding Park Plaza, since at present some 91,500 vehicles cross the Plaza site area in an 11-hour period.

Transportation Improvements

Park Plaza will generate more traffic activity but will also bring considerable transportation improvements.

An essential component of the Park Plaza Project is the street improvements without which the configuration of parcels needed for cohesive land use would not be possible. The main improvement is the elmination of Park Square, which is to be removed making much of the land available for buildings rather than traffic. Park Square is partially replaced by an extended Charles Street, connecting up to Charles Street South. A new Providence Street is created linking up with existing St. James west of Arlington Street. Boylston Street will be slightly widened. Eliot Street leading into Park Square will be eliminated, as well as the section of Columbus Avenue presently leading into Park Square. LaGrange Street and a number of other small alleys and ways will be eliminated entirely. The continuity, realignments, and simplification of this street system will allow more efficient and safe vehicular

movement within the area.

Air Pollution

The principal air pollutants in urban areas are carbon monoxide, hydrocarbons (as they form into photochemical oxidants), oxides of nitrogen, sulphur dioxide and lead. Federal air pollution standards have been set for most of these, and strategies have already been developed for stationary source controls. Strategies for reductions in vehicular emissions are in the process of being developed.

Carbon monoxide is 90-98% caused by vehicular emissions. Hydrocarbons are 60-70% vehicular in origin. Oxides of nitrogen are about 50% from vehicles and 50% from stationary sources such as fuel combustion and waste disposal. The design standards for new autos are aimed at eventually reducing oxides of nitrogen. The ambient air strategies feasible for oxides of nitrogen are less clear due to the complex chemistry involved, and for this reason, vehicular control strategies do not relate to nitrogen oxides specifically. Federal standards for reducing vehicular emissions relate primarily to hydrocarbons and carbon monoxide. Lead reduction will occur as non-leaded gasolines are required. Sulphur dioxide is not of concern in Park Plaza as it is principally produced in industrial processes.

Methodologies for documenting the pollution impacts of a given project are as yet inadequate. The quantity of emissions can be identified to within reasonable accuracy but the dispersal or conversion of emissions is much more difficult to predict. It is fairly realistic to relate carbon monoxide increases closely to increases in vehicle miles of travel, but oxidant increases from hydrocarbon emissions depend on more complex climate factors. The Environmental Protection Agency is currently attempting to examine the problem of "complex" pollution sources and this methodology will facilitate studies of projects such as Park Plaza.

Vehicular emissions are affected by the following factors:

- vehicle mix
- traffic speed
- frequency of stops
- types and conditions of engines
- types of gasolines
- journey length

Effect of emissions are moderated or aggravated by the following factors:

- sunshine
- ventilation rate (wind, topography, temperature inversions)

Given these variables, the impact of Park Plaza on air quality can be identified in broad orders of magnitude but not in extremely precise terms.

New vehicle miles of travel as a result of the project will be about 60,000 per day. At 1970 emission levels, this is about 720 kg of hydrocarbons per day, given an average speed of 25 mph. (If speeds fall as low as 10 mph, then hydrocarbon emissions would be 1.8 times greater for the slow part of the journey).

This figure gains some perspective only in comparison with the current and anticipated hydrocarbon levels in the Boston region. The area in 1970 recieved a total of about 300,000 kg of hydrocarbons per day, of which about 44 percent is vehicular in origin. Therefore, Park Plaza will add about 0.24 percent to the hydrocarbon level in the Boston region.

Carbon monoxide, unlike hydrocarbons, are more significant as a pollutant near to their source. Carbon monoxide levels on the street adjacent to Park Plaza will therefore probably rise by about 95 percent in proportion to the increase in traffic. Again, this should be interpreted as a representation of the order of magnitude rather than the precise levels generated by the project.

Certain localized mitigating factors will ensue as a result of the Park Plaza construction. Many current vehicle-oriented activities will relocate to other areas. In

addition to the three car-rental agencies, there are 2,000 parking spaces, and the worst offender of all, the Trailways Bus Station, causes considerable pollution from running engines during loading and unloading. It must, of course, be noted that the benefit from removal of these activities depends upon where they relocate to, which in many cases will be to other parts of downtown. With good planning, however, they can become more controlled operations than at present.

The Federal Clean Air Act itself will improve the situation. It calls for approximately a 65 percent reduction in the hydrocarbon level and a 40 percent reduction in the carbon monxide level by 1975 or at least by 1977. The Park Plaza area currently has less severe pollution levels than most parts of downtown (see Map 1). Assuming therefore that appropriate levels are promulgated by the State, all hydrocarbon and carbon monoxide levels will be substantially reduced by the late 70's. Park Plaza adds so little to the general pollution level that there should be little difficulty in the project's meeting Federal standards as transportation and stationary source strategies come into being.

Noise

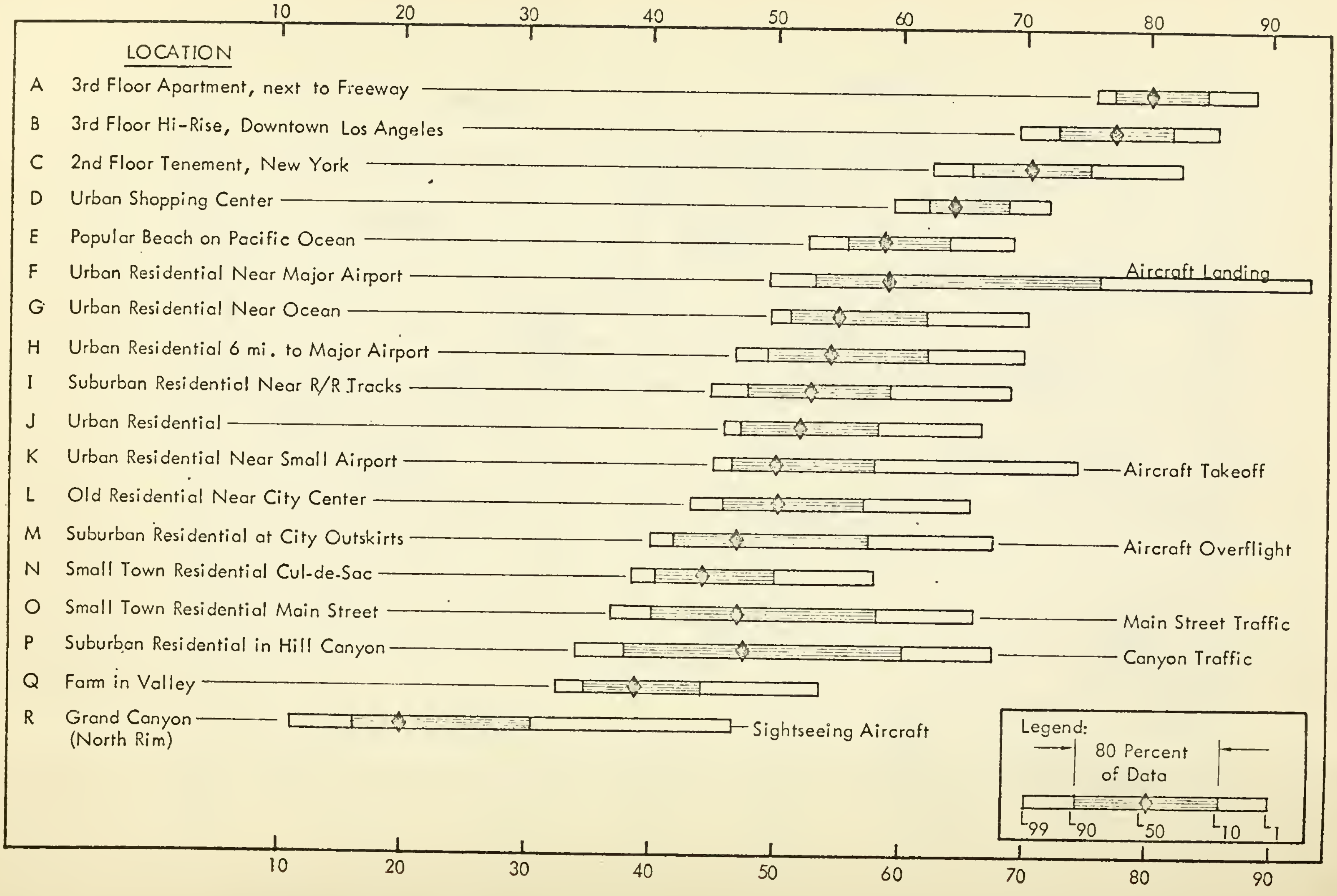
Noise levels current in the area are most typical

(see Chart 1) for an urban area of this type, thus a background noise level of 65 dB(A) prevails, with peaks of about 75 dB(A). At this level of noise, it is possible to have an outdoor conversation if the distance between speakers is 2 feet. Intermittent noise from delivery vehicles, sirens, and buses will raise levels to levels where speech is impossible from time to time. Noise levels in the Public Garden and Boston Common are high, around 60 dB(A), but not disruptive, since apart from emergency vehicle sirens, the noise is at a fairly steady background level, where normal speech is possible at reasonable distances. Attached is a map (2) of current noise readings in the Common and Public Garden.

A doubling of noise sources of the same kind would lead to only a 3 dB(A) increase in noise levels. The noise from Park Plaza will be a negligible increase of less than 1 dB(A) from additional traffic noise. The relocation of the bus terminal and the realigned street system should qualitatively contribute to reduced noise levels. Enjoyment of Boston Common should not be affected by noise to any significant degree. The pedestrian will enjoy much lower noise levels since much of the new pedestrian system will be enclosed.

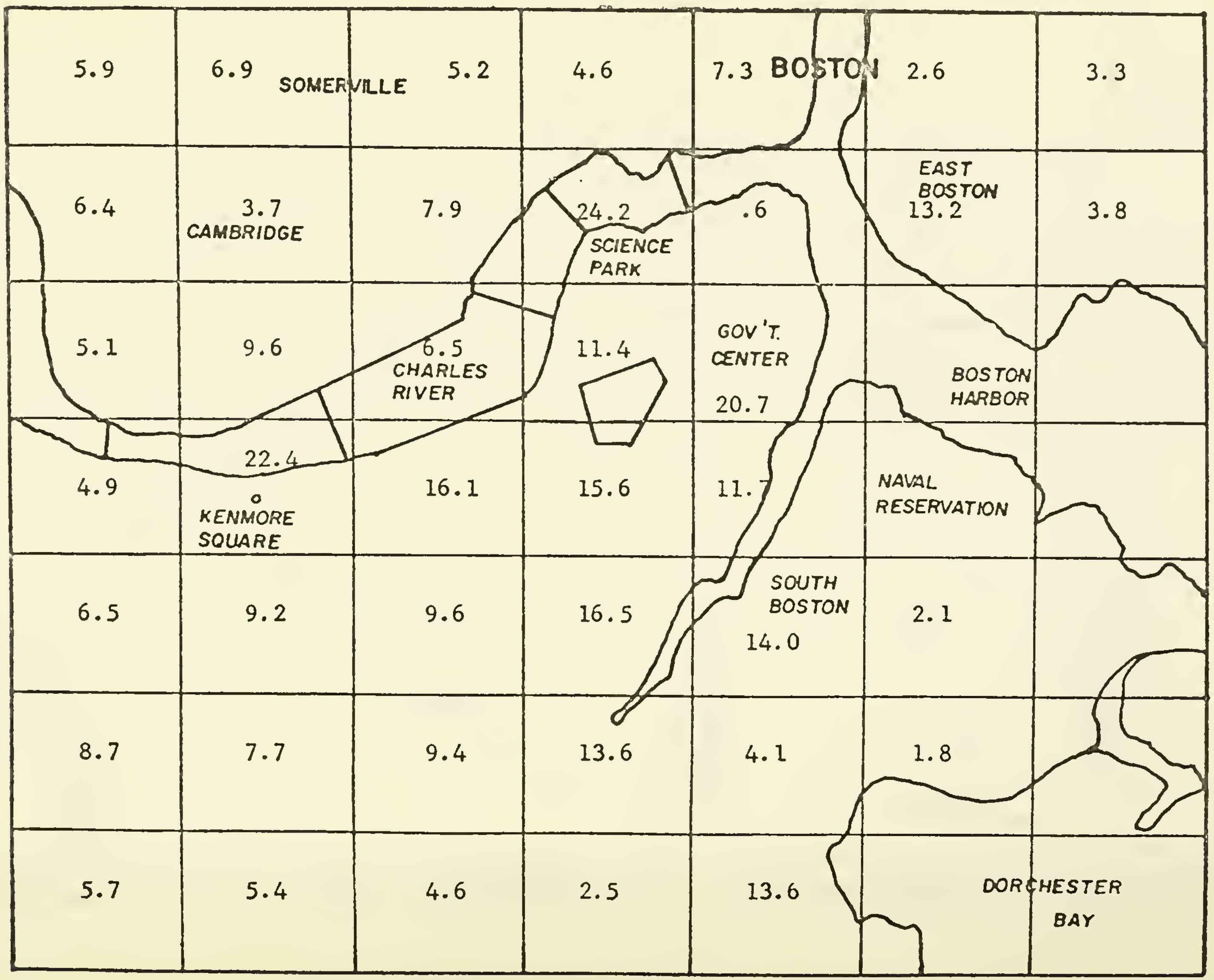
Noise from non-vehicular sources is more difficult to identify and relates principally to the fact that the new building mass will add a new reflective surface, increasing noise from traffic in that corner of the Garden.

Chart 1 -- TYPICAL NOISE LEVELS



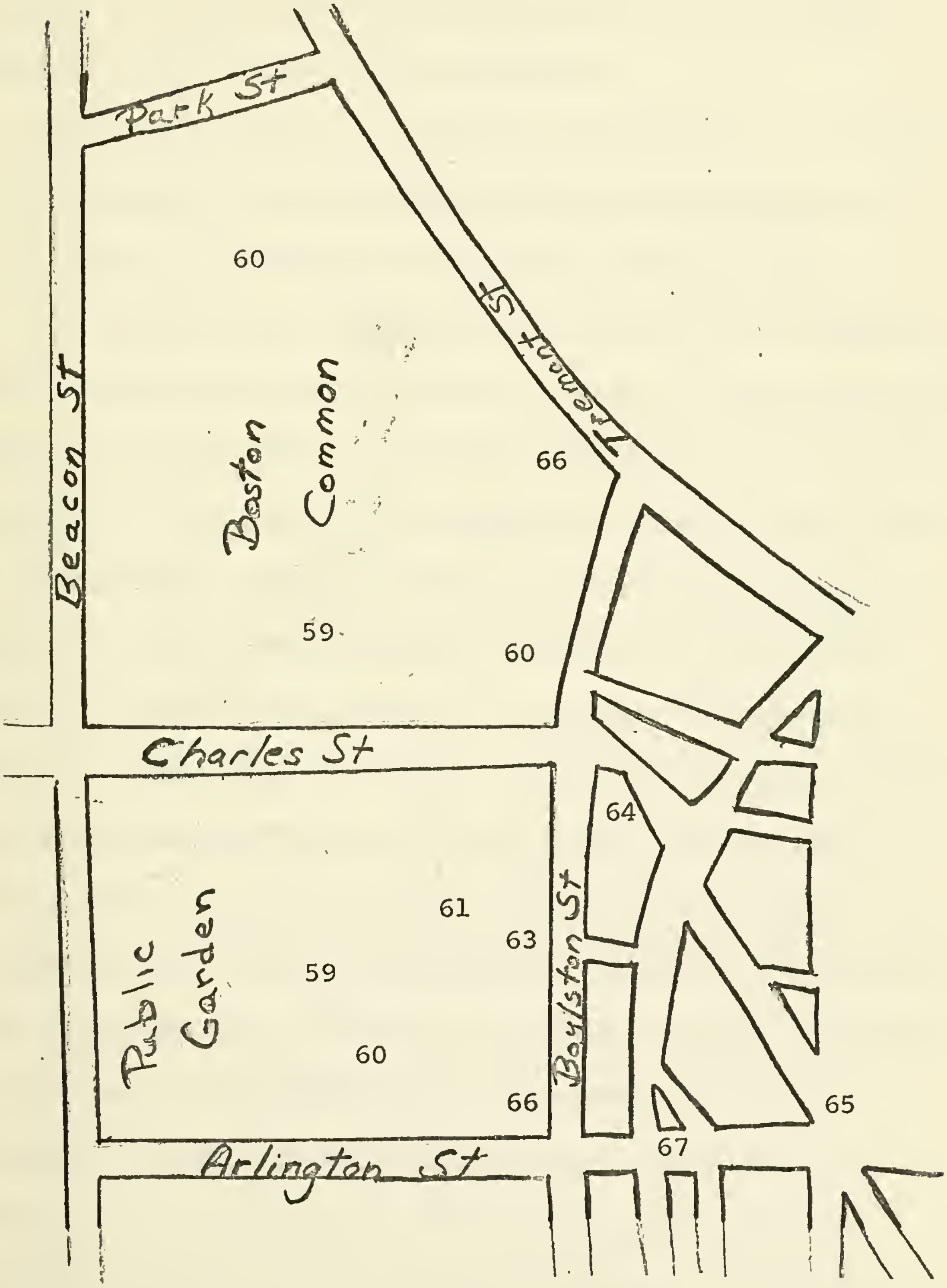
Daytime Outdoor Noise Levels Found in 18 Locations Ranging Between the Wilderness and the Downtown City

Map 1 -- CURRENT DOWNTOWN CO LEVELS



8-Hour Maximum Ambient Air Quality Estimates for Carbon Monoxide in 1970 (In PPM)

Map 2 -- NOISE LEVELS IN COMMON AND GARDEN



C.5. Historic Buildings

The Park Plaza Urban Renewal Plan proposes extensive clearance and redevelopment and implications for historic preservation have been fully considered.

The project will not eliminate any buildings of significant historical or architectrual merit, and steps have or will be taken to maximize preservation opportunities.

The present area developed commercially, in a haphazard manner, relatively late in Boston's history. The Tavern Club buildings of the 1830's, of sociological interest, do remain, while most of the earlier non-commercial buildings have long been demolished. When the filling of Back Bay was nearly complete in 1855, the predominant structure was the Greek revival row house. The modeled buildings of the Women's Educational and Industrial Union are the only example of this style which remains in the Park Plaza area. Beacon Hill, however, has many fine examples. Between 1875 and 1900 the character of the whole area changed as commercial structures became predominant. The narrow, five-story Hayden Building on the corner of Washington Street was designed by H. H. Richardson in 1875. The building is not of interest to students of his work because of the party walls with two abutting buildings and the modernized facade. The Boylston

Building, with its outstanding interior arcade is still handsome today. Other buildings and courtyards can be described as "pleasant" but are totally surrounded by unattractive activities--the back of the bus terminal, rear of commercial structures, vacated stores.

Because of the wide spacing of the good buildings in the area, their retention is not practical. None of the buildings in the area can stand alone as an architectural or historical monument. The Massachusetts Historical Commission reviewed the Park Plaza Plan and in a statement dated January 16, 1973, to the Department of Community Affairs and BRA considered the "clearance approach to be justified for most of the area, since the majority of buildings are not sufficiently important historically or architecturally to cause preservation to be a primary concern. There are, however, a few exceptions".

BRA has reviewed the "preservation opportunities" suggested by the Commission and has concluded as follows:

Liberty Tree Site

The intersection of Boylston, Washington and Essex is indeed "an historically important spot, having been the location of the Liberty Tree, closely associated with the American Revolution". A triangular

space has been opened up at this location as a result of a new traffic pattern and BRA will create a commemorative park at that location. The Liberty Tree plaque at 630 Washington Street, however, will be preserved and the site marked. Additionally, future planning will consider the retention of adjacent buildings which could enhance the historic character of the area.

Area East of Tremont

The Commission points out that there are a number of "architecturally interesting buildings" and suggests that BRA consider "the possibility of preservation of selected buildings rather than total clearance, the result could be lively, varied and aesthetically pleasing, while still fulfilling most of the project's goals". The Commission lists several buildings--Former Hotel Touraine, Young Men's Christian Union, Hayden Building, southwest corner of Washington and Stuart, and Jacob Wirth Building--which it suggests be considered for retention. The Commission also recognizes that "not all of (these preservation opportunities) can necessarily be followed.

BRA agrees with the recommendation and has concluded that it will seriously consider the possibility of integrating old and new buildings during the detailed design for this portion of the project area.

Area West of Tremont

The Commission finds "relatively little that can justifiably be recommended for preservation". One exception noted are Nos. 4, 5, and 6 Boylston Place, now owned by the Tavern Club. The Commission suggests these buildings be retained because they are "survivals from the past" and they are on the perimeter of the project, presumably making it feasible to retain them. BRA has considered this proposal and finds that it may not be feasible to succesfully integrate the buildings into the design scheme. The buildings jut out into the heart of the block making it extremely difficult to create a development parcel of adequate size and shape. Since the buildings are not cited as significant ones, BRA believes their taking, if found necessary for development purposes, is justified. However, preliminary investigation reveals that it may be

possible to move the buildings to a new location within the project area. That possibility will be seriously explored as design proceeds.

It should be noted that the Thomas Ball Emancipation Group statue, which has stood at Park Square since 1877 will be preserved and moved to a prominent public place in Park Plaza.

C.6. Utility Infrastructure

The Park Plaza development will require modification and/or interconnection with the following utilities:

Water Supply
Sanitary Sewage and Storm Drainage
Electrical Power Distribution
High Pressure Fire
Telephone
Police and Fire Signals
Steam

As part of its review of the Park Plaza Project, BRA submitted plans to all public and private utility organizations having jurisdiction over the above-noted items. In all cases, adjustments to existing systems can be made to accommodate the Park Plaza Project. The most significantly impacted systems are water, sewage, and electrical. These are described more fully in the following section.

Sewer and Water Facilities

Population Projections

The method utilized by engineers in preparing the design of sewer and water systems to serve future development is to project population. In this project, we have a detailed program showing specific numbers of dwelling units, areas of office and commercial space, and other parameters of ultimate population and use patterns.

To arrive at a projected population, occupancy factors indicating the number of persons using each functional area are multiplied by the unit measurement of that area. These estimated populations total to an estimated population of 12,600 persons. This figure includes visitors, shoppers, and others who may be utilizing the area without being employed or in residence in the project. It does not take into account the fact that office workers may be present only eight out of twenty-four hours. This omission is acceptable as it creates a positive error which will cause a further factor of safety in the overestimation of utility demand.

Projection of Utility Demand

Water demand is usually based upon a figure of about 100 gallons per capita per day. In Boston

engineers have used a figure of 125 gpcd, a full 25% above suggested national guidelines.

Applying the 125 gpcd guide to the projected population of 12,600 persons, we obtain an average daily water usage estimate of 1,575,000 gallons per day or about 1100 gallons per minute on the average.

Experience has indicated that peak demand usually amounts to about three times average demand. Under certain circumstances, usually in very closely defined areas, peak demand may reach nine times average demand, but for a project of the scale of Park Plaza such high demand factors are restricted to individual sub-units of buildings and are more the problems of the developer's architect and mechanical engineer than the designer of the municipal distribution system.

Applying the demand factor of three to the average demand of 1100 gallons per minute, we obtain a peak demand of 3300 gpm or, for purposes of system design, say, 3500 gpm peak water demand. In the case of a highly urbanized area wherein almost all surfaces are paved or covered by buildings, percolation and absorption is negligible and it may be assumed that all water consumed is returned through the storm and sanitary

sewer systems. In addition, the storm sewer system or storm drain system must carry run-off from rain falling upon buildings and pavements and from snow melt.

The Park Plaza area is already esstentially covered entirely by buildings and pavements and the storm run-off is being carried by the existing drainage system. Therefore, for the purposes of analysis, it is superfluous to engage in the design of a new storm water collection system. Naturally, local drainage will have to be revised as the development is designed and constructed. However, total run-off from the entire project will not change and will continue to be handled by the existing main sewers leading from the area. For purposes of comparison of peak sanitary sewer loads versus peak storm sewer loads, an intense storm such as might occur once in a decade may produce storm run-off exceeding the sanitary sewer demand by a factor of four.

It should be noted here that storm and sanitary sewers are separate systems as a matter of contemporary engineering practice. However, in the past economy has caused combined systems to be built which carry both

waste and run-off. The Boston/MDC system, conceived in 1875, is such a combined system. The policy of the City of Boston has been to separate storm and sanitary systems as sewers have been rebuilt in recent years. As the old combined sewers are relieved of the burden of carrying run-off, it can be seen that their capacities for waste removal are increased by a large factor.

It will continue to be the policy of the City of Boston to separate sanitary waste from storm drainage whenever the present system is replaced, rebuilt or extended. Whereas storm run-off will be conducted into the closest watercourse much as it would have been by natural percolation, absorption and discharge, sanitary wastes will be diverted into MDC trunk sewers for treatment prior to discharge. At the moment, the MDC (Metropolitan District Commission) maintains a fairly new primary treatment facility on Deer Island in Boston Harbor. The efficacy of this facility has been debated since its completion in the 1960's. About the only engineering concensus which exists is that the Deer Island operation is improving and that water quality in Boston Harbor is superior

to its level prior to the opening of the facility. It is hoped that the State and Federal governments will continue to fund clean water programs at an ever increasing level and that through such actions by the Legislature and others, and improved treatment facility with secondary treatment capability may be constructed by the MDC in the near future.

Availability of Water Supply to Park Plaza

Compared with most other American cities, Boston has a system and supply which is capable of meeting both immediate and future needs. The construction of a major reservoir at Quabin during the 1930's has saved Boston from the supply crises felt in the past several years by most major cities in the Northeast.

This is not to say that water supplies will continue to be available without limit. Some rationalization of the MDC distribution system will be necessary to limit the use of potable water in industrial process applications where other water sources would prove satisfactory. For the most part, however, the matter of metropolitan water supply is a policy issue under the control of the MDC and ultimately the Governor and Legislature. For purposes of this report, it may be assumed that the population

of Park Plaza will be comprised of persons who would otherwise be located elsewhere within the metropolitan district and drawing upon the same water supply. Moreover, as mentioned earlier, suburban per capita water consumption may actually be much higher than that of apartment dwellers due to lawn and shrub watering which may make up as much as 40% of suburban potable water consumption.

For the purposes of this analysis, the present water consumption by the existing uses in the Park Plaza area has not been considered. In reality, the 3500 gallon per minute demand would be offset in part by the elimination of the existing demand. Without making any detailed computations, the 37 residents and 255 enterprises (including a commercial car wash) may well be consuming over 1000 gpm today. Nonetheless, we will base our analysis on additional new demand of 3500 gpm above any existing level.

The City of Boston buys water in large quantities from the Metropolitan District Commission. This bulk water is metered at several points where the City system interfaces with the MDC lines. The system is divided into two separate elements known as the Southern Low Service (SLS) and the Southern High Service (SHS).

The difference in designation pertains to the pressure or "head" at which the water is supplied. The Southern refers to the fact that the Metropolitan District is divided into North and South water districts with the City of Boston lying in the Southern district.

Being located in the central area of Boston, the Park Plaza site has several major water mains passing along its boundaries and through its center. Among these is a 48-inch Southern Low Service main which runs under Arlington Street, Columbus Avenue, and Charles Street. A 24-inch High Service main runs in Boylston Street between the site and the Boston Common and Public Garden.

These mains are connected into numerous distribution pipes which are interconnected in a loop or gridiron system. Computing actual flows in such a system is a complex process which invovles indeterminate analysis by a relaxation process or other analog technique. As almost all distribution lines in the project area will be redesigned and rebuilt, such an analysis is of dubious value. However, gross flows in the SLS and SHS mains may be estimated by application of nomographs which relate flows to internal friction and loss of head.

A demand of 3500 gpm is roughly equivalent to 7.8 cubic feet per second. Taking the 48" Low Service main, this implies a flow rate of 0.67 feet per second velocity. Actual flows in a main of this type are much greater and it can be seen that the demand composes a small per cent of the capacity of a main which may be handling flows of over 10 fps. The total project demand would not be served from this single Low Service main, of course, but its size indicates more than adequate capacity in the project area.

Availability of Sanitary Sewer Capacity

In section B of this report, combined sewer systems were discussed in some detail. At present, the Park Plaza porject area is served primarily by a combined storm and sanitary system. Some separation has been effected along Arlington Street, but the bulk of waste and run-off is carried across Boylston Street and into a major combined sewer which flows under the Boston Public Garden.

This combined sewer begins as a six-foot six-inch by six-foot six-inch horseshoe concrete sewer built under Boylston Street in 1914, continues into a short length of brick and wood sewer measuring about four feet

square which leads to a relatively new 48-inch reinforced concrete sewer under the Public Garden pond built in 1950.

At the point of exit from the project area, the horseshoe shaped sewer has a carrying capacity of about 8600 gallons per minute. This is, of course, more than adequate for the 3500 gpm projected peak sanitary demand projected. In addition, smaller sewer lines, some sanitary sewer only, such as a 22-inch sewer crossing Arlington Street at St. James Street, increase the capacity of the project area and allow the distribution of loads around the periphery.

As it has been the policy of the City of Boston to pursue a program of separation of storm and sanitary sewer systems as the existing system is gradually replaced and as no major street realignments or repaving is done prior to an upgrading of the utilities in the street, it can be assured that the Park Plaza project will be a prime impetus to the continuation of the upgrading program in an area of the city which retains many sewer lines dating from before the Civil War.

Availability of Water for Fire Protection

The City of Boston has in addition to the Southern High Service and Southern Low Service mains a system of mains specifically established to provide fire protection in the congested high-value district of the central city. This type of system is unique to major cities and has been a significant contributing factor in the reduction of insurance rates on major buildings in the congested downtown areas.

The system was established in the early years of the twentieth century and consists of a network of water lines which extend from the area around Haymarket Square, through the financial, retail and garment districts and the waterfront to Park Square. The system is supplied by two pumping stations. The primary station is located adjacent to the Boston Edison steam plant on Kneeland Street. It has two pumps powered by steam supplied by Edison. A back-up station is located on Atlantic Avenue near the Sheraton building. It also has two pumps but they are powered by direct current electric motors. Operation of the system is by signal from fire alarm headquarters in the Fenway to a 24-hour crew stationed at Kneeland Street. When an alarm is sounded in the

high value district, the crew is signalled to pressurize the system by starting the pumps.

The system has several advantages over the use of portable high-pressure equipment drawing from SLS and SHS hydrants. Most notable is the fact that many major buildings have automatic sprinkler systems connected to the High Service lines and the connection of high pressure equipment to hydrants near these buildings would tend to reduce pressure to the automatic system in the event of a fire. The Atlantic Avenue station had been set up to draw water directly from the harbor in case of a major fire, but a section of pipe to the harbor inlet was removed during the Second World War to prevent saboteurs from cross-connecting harbor water into the potable water system. This pipe has never been reinstalled.

At present, the Public Facilities Department of City of Boston has completed architectural designs for the construction of a new high pressure pumping station to be located above the Dewey Square tunnel of the Expressway. This station will have independent diesel powered pumps and will replace both of the present stations. As the existing high pressure system extends

to Park Square, it is felt that the new pumping station combined with the extension of the system westward through the Park Plaza site toward the new Hancock and Prudential towers will mark an important upgrading of the fire protection system.

Extrapolation to Stage II

The methodology for estimating sewer and water demand was shown in detail in sections A and B of this report. As Park Plaza Stage II has no detailed program which would allow the assignment of specific numbers of dwelling units or square feet of office and commercial space, it can be estimated only by extrapolating the use densities of Park Plaza Stage I. This is a rational methodology to use in this instance and is quite similar to the usual population trend projections used by cities and towns in designing sewer and water systems for long-term growth when the exact nature and location of that growth is unknown.

Stage I consists of 10.2 acres of development out of project redevelopment parcels totalling 16.2 acres. The six acres of Stage II, based upon the 3500 gpm demand estimate for Stage I, will require sewer and water

services of about 2000 gpm. Without repeating the analysis technique, it can be seen that this figure lies well within a reasonable range for the utility system.

It is worth noting that utility improvements, such as the connection of the High and Low Service mains at the eastern edge of the Stage I area, will actually improve the capacity of utilities in the Stage II area. These improvements, as well as other improvements planned in the Central Business District and already implemented in the South Cove urban renewal area, will provide an extremely beneficial upgrading of the entire utility network in what is one of the oldest sections of the City of Boston.

Conclusions

Sewer, water, and fire protection service utilities in the Park Plaza project area are capable of handling any reasonable future demand of the project as presently planned. Documentation of this conclusion has been provided by qualified professional engineers who have worked with the systems under analysis over a period of years and who are intimately invovled in the ongoing maintenance and operation of the system.

Although the internal utility network within the project area will have to be rebuilt, the macro-framework of sewer and water trunk mains are quite adequate. Internal rebuilding is required because of reparcelization and street changes regardless of subsystem capacities.

Some major improvements such as SLS pressure interconnections and separation of sanitary and storm sewers will be caused by redevelopment in this area.

Electrical Service

A review of the impact of electrical power demands of the Park Plaza Project has been made by the Boston Edison Company. In a report dated May 16, 1973, Boston Edison indicate the following:

> The Boston Edison Company has projects in process which will make the capacity available to meet the 45,000 to 50,000 kW of peak demand for the Park Plaza Project when it is required.
>
> Our planning has recognized the extensive growth and potential for growth in the down-town core area of Boston. In 1972, a report was approved by our Electric System Committee regarding the oderly expansion of the bulk power facilities in the core city to the year 1985. Studies beyond this date are continuing to the year 2000. The current downtown Boston business area load of approximately 700,000 kVA is supplied from existing bulk power facilities. This capacity, which includes our new Belvidere Street 115 kV bulk sub-station (which was completed in May, 1973) is capable of supplying up to one million kVA of load.
>
> Future requirements of the down-town business area of Boston could reach 1½ million kVA by 1985. To supply this capacity requirement, a new 115 kV bulk sub-station is planned for the Kingston Street area. The first phase of the Kingston Street Station construction is scheduled for the summer of 1975 with successive additions planned in future years as the load grows.
>
> Transmission capacities require that a 345,000 volt system, augmenting our 115,000 volt system, be installed in conjunction with one of the future Kingston Street expansion steps.

Specific lower voltage feeders and utilization voltage transformers will be required to meet the several loads of the Park Plaza Project. As in all projects of this magnitude, additional plans to provide these items will be necessary as the more detailed load and location information becomes available.

Although the Park Plaza peak of 50,000 kW is a very significant added load, it can be readily handled from a generation standpoint. We do participate with other power companies in New England in planning a additional generating units to satisfy our pooled needs.

SECTION D:

ENVIRONMENTAL MEASURES

PARK PLAZA ENVIRONMENTAL IMPACT REPORT

D. ENVIRONMENTAL MEASURES

As indicated earlier, measures have been taken and are being utilized to minimize or avoid damage to the environment. At the same time, there is full recognition that environmental impact analysis is a continuous, ongoing concern throughout the entire design and development process. As specific environmental issues arise during the entire course of the project, therefore, they will be soundly and appropriately resolved by a work program which has now been established. The work program includes the continued organization and evaluation of existing information on the environmental resources of the site, the consideration of alternative design schemes, the development of a final design scheme, the definition of special analysis needs, special studies from scientific consultants, and ongoing communication and coordination with community organization, public officials, and other concerned organizations.

The recommended work program prepared by The Saratoga Associates identified those measures which are to be utilized to minimize or avoid undesirable consequences. This work program is a means of organizing further data development, further analysis of the proposed development program, and detailed evaluation of the relationship of the development to the environment in order to identify areas of conflict which could be minimized through alterations of the program or design. The work program will include studies in areas of particular concern such as:

Geotechnic studies on foundation design
Hydrological analysis of water table effects
Air pollution abatement review, in relation to design elements and building subsystems
Wind simulation tests and analysis
Solar cycle influences
Horticultural and landscape architecture analysis

Visual analysis

Traffic and transportation subsystems analysis

Engineering and planning review of various project and building subsystems

Comprehensive design review

The above activities will coincide with environmental monitoring and the evaluation of proposed design decisions and construction methodologies by appropriate technical consultants. The ongoing studies of potential environmental impacts is to be coordinated with design development at each stage (these stages include: (1) building study, (2) schematic design, (3) design development, (4) preliminary working drawings and outline specifications). During the course of the project, certain environmental situations will emerge which may require some unusual or more refined analyses. Special studies of these situations might include programmatic studies for the application of public funds or programs or primary research into new technology which could assist in sustaining high levels of environmental quality in the development of the project.

The environmental work program--including necessary data development, analysis, monitoring and evaluation--will ensure proper and responsible environmental considerations at every step of the project from land acquisition through occupancy of the completed structures.

After approval by the State (Department of Community Affairs), there are at least five approvals that the BRA must give before any property can be acquired. These include:

Approval of a building study of the use, mass and location of the proposed buildings.

Approval of a Master Land Disposition Agreement.

Approval of Schematic Drawings.

Approval of Design Development Drawing showing massing, functioning, outline of specs, and designation materials.

Approval of the financing commitment for acquisition, relocation, and demolition.

These approvals permit exacting review of the project program and design by the BRA. Furthermore, in order to fully expose all elements of the project to close public scrutiny, at least two separate groups have been established to operate during the course of the project: a civic advisory committee and a design advisory committee.

Citizen Review Process

A Park Plaza Civic Advisory Committee was established on 5/9/73 to review the Park Plaza plan and supporting documentation. The members of the committee represent a broad base of community, business, and civic groups abutting the project area.

The Park Plaza plan describes the general activities to be permitted and the project's land uses and represents a basic program for the redevelopment of the project area. At the same time, a great many specific issues will arise and need to be resolved during the entire course of the project. The Civic Advisory Committee will participate in planning, design, and related issues as follows:

- The committee shall have access to all records of BRA concerning the project except those which BRA must maintain in confidential classification (normally appraisals and interoffice memoranda). The committee, or its delegates, shall confer regularly with the Director or the BRA Liaison Officer for a comprehensive planning and development review. Such meetings may be held twice monthly.
- The committee may send delegates to any important planning conferences held by BRA on the project.
- The committee may request written replies of its inquiries from BRA and they shall be returned within a reasonable time, usually one week.
- The committee may undertake special research and planning studies of its own from time to time.

- BRA shall invite and welcome the advice of the committee generally. The committee shall also be permitted and helped to consult with the developer(s) and its consultants.

- BRA shall not appoint new developers nor shall it approve new consultants without first seeking the recommendations of the committee.

- The Civic Advisory Committee shall be invited to make requests of and give advice to the Design Advisory Subcommittee.

- The committee may advise its constituent agencies on the project and on any question related to the impact of the project.

- The committee may furnish alternative planning ideas and development proposals to BRA from time to time.

- BRA staff shall assist the committee in obtaining direct access to the BRA Board and the Mayor whenever the committee deems this to be necessary.

- Prior to adopting a final plan for parcels D and E, BRA shall seek a thorough review by the Committee.

PARK PLAZA DESIGN REVIEW PROCESS

The Letter of Intent requires that subsequent to State approval, there will be a 4 month period for a Building Study, the results of which are to be submitted to the Authority for review, comment and approval or disapproval of a building mass, size and location study and which will also take into account aesthetic and economic factors.

Subsequent to approval of the Building Study, the project will be required to gain approvals in accordance with the Authority's formal design review procedure. The stages at which formal Authority design approval is required are 1) Schematic Design (to be submitted within 6 months after approval of the Building Study), 2) Design Development, 3) Preliminary Working Drawings and Outline Specifications, and 4) Final Working Drawings and Specifications. In the case of the Park Plaza project, the intent of these stages will be to ensure

that the progressive development and completion of the project design is in confomity with the principles and concept established at the approval stage of the Building Study.

The preparation of the Building Study will be a period of continual and close liason between the developer, the developer's architects and other consultants, and the BRA staff so issues may be resolved and principles established between the parties as an ongoing process, rather than a fait accompli presented to the Authority at the end of the period. Also involved and on a regular basis will be the independent Design Advisory Committee and the Civic Advisory Committee. These Committees will evaluate and make recommendations to the developer and his architects.

The criteria by which the project will be assessed during the Building Study period will be the Plan Objectives as stated in the Urban Renewal Plan and the pertinent results of the Environmental Impact Study.

The objectives contained in the Urban Renewal Plan concern among other things, a lively mixture of mutually reinforcing uses, the careful integration of scale and activity to adjoining areas, the provision of multilevel pedestrian areas throughout the project, the creation of multi-use structures, the location of low elements close to street lines, the location of high rise structures in conformity with the high spine concept, the use of building materials to relate well to existing Boston, and the provision of public and semipublic areas and spaces.

The issues brought into focus by the Environmental Impact Report which could have direct bearing on design are: wind, shadow and solar exposure, water table and effect on the Common and Garden, profile of design and its perception from different points in the City, and pedestrian, traffic and parking flows.

Other areas of concern which the Building Study must address, are: the specific nature of the public component and its amenity value to the City,

the vitality of uses in the project both in the day and evening, and a comprehensive and systematic approach to phasing of development.

This outline shows how the mechanisms of review and assessment and the subject matter and issues of the review, have been established to maintain the greatest possible control by the Authority on the evolution of the project design.

Coordination and Timing of Environmental Studies

The ongoing environmental studies for the BRA will be coordinated by an independent environmental consultant. There shall also be ongoing communication with the Civic Advisory Committee, the Design Advisory Committee and other concerned organizations consistent with the following schedule of activities:

Building Study (within four months)

in conjunction with the building mass, size, use, and location size:

* visual analysis (City scale)
* planning review of specific program impacts on surrounding areas
* solar cycle influences
* traffic and transportation subsystems analysis
* wind simulation tests

Schematic Drawings (within six months)

in conjunction with the Schematic Design of visual and architectural elements and building and site plans:

* design techniques for alleviating wind problems
* pollution sources review
* analysis of water table effects
* visual analysis (project scale)
* planning review of specific project impacts on surrounding areas

Design Development (within five months)

in conjunction with the Design Development of massing, function, structural systems, outline of specifications and designation of building materials leading to a final design:

* geotechnic studies of foundation design
* engineering review of project and building subsystems
* air pollution abatement review
* traffic and transportation review
* design review

The working relationships between the BRA, the environmental consultants, the developer's technical experts, and the Advisory Committees will be guided by the policies, processes, and schedules set forth in this section, subject to more specific procedures to be established jointly. The various studies and review mechanisms will provide a basis for establishing the most desirable program and design for the Park Plaza Project.

REFERENCES

Park Plaza documents:

1. *Park Plaza Urban Renewal Plan*, July 1971
2. *Report on the Sound Needs of the Locality*, BRA Planning and Research Departments, May 1973
3. *Park Plaza Urban Renewal Project: Relocation Plan*, June, 1973
4. *Park Plaza Urban Renewal Project: Building Conditions Report*, May 1973
5. *Building Conditions Report for Stage I of the Park Plaza Urban Renewal Project*, Charles T. Main, Inc., May 1973

Other sources:

Section	Source
Description of the Project	*Real Estate Market Survey*, Boston Office Edition, April 1973; Ryan, Elliott & Co.
	Letter from Golder, Gass, Associates to Boston Urban Associates on preliminary subsurface investigation, May 25, 1972
	1972 Traffic and Parking Counts, BRA
Vegetation: Common and Garden	*Rehabilitation of the Boston Common and Public Garden*, Carol R. Johnson, Associates; May 1973
	Shadow studies were conducted by Davis, Brody & Associates in 1971 and by the BRA Urban Design Department, May, 1973. Examples of this recent study are included in the back pocket.

Vegetation: Common and Garden	"Meeting the Shade Problem", Lowell Kammer, *Morton Arboretum Quarterly*, Summer 1965 *Handbook of Effects Assessment: Vegetation Damage*, N. L. Lacasse and W. J. Moroz, Center for Air Environment Study, The Pennsylvania State University. Clifford S. Chater is Associate Professor of plant pathology and entymology, Waltham Field Station, University of Massachusetts Letter from PRCA Deputy Administrator Edward Skloot to Lewis Davis, Davis, Brody & Associates on Central Park South, dated May 24, 1973 "Outline Proposal for a Study of Pedestrian Level Wind Effects Near Tall Buildings," Mt. Auburn Research Associates, December 1972 "Local Climatological Data", 1972 Annual Summary, Environmental Data Service, U. S. Department of Commerce
Impact on Surrounding Land Uses	The analysis in this section is based on information developed by the Research, Planning, and Transportation Planning Departments of the BRA
Topography and Hydrology	Letter from Golder, Gass, Associates to Boston Urban Associates on preliminary subsurface investigation, May 1972 Letter from Golder, Gass, Associates to Boston Urban Associates on groundwater levels, May 1973

Air Quality	Memo from Walworth Williams, MBTA, to Boston City Council, November 1971
	Environmental Protection Agency report # APTD-1442 "Transportation Controls to reduce Motor Vehicle Emissions in Boston, Massachusetts, December 1972
	"Community Noise", Environmental Protection Agency report # NTID 300.3, December 1971
	Memo from Barton-Aschmann to Davis, Brody & Associates, September, 1971 on garage access
	Boston Air Pollution and Noise Commission
Historic Buildings	"Architectural and Historical Survey of the Park Square Area" by Cynthia Zaitzevsky, Boston Landmarks Commission, September 1970
	Statement of the Massachusetts Historical Commission to the Massachusetts Department of Community Affairs and BRA, January 1973

FINAL REPORT
PARK PLAZA ENVIRONMENTAL EVALUATION AND IMPACT ANALYSIS WORK PROGRAM

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The Saratoga Associates

FINAL REPORT
PARK PLAZA ENVIRONMENTAL EVALUATION AND IMPACT ANALYSIS WORK PROGRAM

907.-17-34

PREPARED FOR:

BOSTON REDEVELOPMENT AUTHORITY
BOSTON, MASSACHUSETTS

PREPARED BY:

THE SARATOGA ASSOCIATES:
BRISTOL, LEAVER, LITYNSKI, TARBOX,
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BOSTON
PUBLIC
LIBRARY

June, 1973

The Saratoga Associates

June 6, 1973

Mr. Robert T. Kenney
Director
Boston Redevelopment Authority
City Hall
Boston, Massachusetts

Dear Mr. Kenney:

We are pleased to transmit herewith our report on the environmental evaluation of the Park Plaza project.

We wish to acknowledge the helpful assistance of the Boston Redevelopment Authority staff in compiling the existing data relative to the project.

It has been a pleasure assisting you on this major program and we hope that you will find this study of assistance in your resolution of the issues.

My very best wishes.

Very truly yours,

Vincent J Moore

Vincent J. Moore

VJM/pw
Enc.

Bristol, Leaver, Litynski, Tarbox, Hollister and Moore, P.C. Landscape Architects, Architects, Planners
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PREFACE

The National Environmental Policy Act of 1969 (NEPA) represented a major shift in the traditional American perspective of the environment. Prior to NEPA, the environment was generally considered to be subordinate to the actions and activities of man. In man's quest for "progress" the environment was more often perceived as an obstacle to be overcome - if not a threat. It is not necessary to review here the extensive environmental degradations that this traditional perspective fostered, or the widespread public concern that followed. The important point is that the perspective of the environment implicit in NEPA is, for all purposes, a complete reversal of the traditional view. Proposed actions and activities now must demonstrate a compatible relationship with the goals of environmental quality.

Thus, one of the major elements of NEPA was the establishment of requirements for the analysis of the probable environmental impacts of proposed major development actions or activities utilizing federal funds. Since its enactment, many states and local governments have followed the precedent of NEPA and have enacted local legislation requiring the consideration and evaluation of the environmental impact of large scale developments. The Commonwealth of Massachusetts, in the enactment of Chapter 30, Sections 61 and 62 of the General Laws, is representative of the State and local effort to legislate a new environmental ethic.

In the few years that have passed since the enactment of NEPA, environmental impact analysis has become a controversial issue which threatens to polarize attitudes on the environment. There has been much recent speculation that the success of such legislation in frustrating many developmental efforts is spawning a "backlash" which could lead to repeal of the legislation. Well-financed development interest groups and lobbies who favor repeal are said to be pitted against conservationists who generally have widespread public sympathy and support.

In the opinion of The Saratoga Associates, this is an unfortunate development - and one which could have a detrimental effect on all interests, unless efforts are made to resolve some very basic problems of environmental impact analysis procedure.

One of the most serious problems is the apparent impasse which results when general masterplans for a project are expected to provide detailed information for specific environmental impact analysis. Large scale development projects particularly are designed in a series of stages during which architectural and engineering problems are resolved in a complicated process of testing proposed alternative solutions and specific problems feeding the results back into the overall design process where these possible solutions can be examined for impact on other aspects of the overall plan. Thus it may not be possible, for example, to resolve detailed questions of wind affects until the proposed project is considerably advanced in design. Yet design is held up or prevented because authorities are reluctant to proceed with expensive detailed design without some assurance that the project will, in fact, be approved.

The resolution of this problem calls for a concept of staged process of environmental impact analysis which parallels the project planning and design process, as recommended by this study.

As a procedure, it calls for compromise on the part of all interests involved, but more particularly, it calls for an open planning process in which planning and design evaluation is objective, continuous and shared by members of the community.

It further requires that environmental interests who are evaluating the project distinguish between those issues which are truly environmental and those issues in which environmental aspects may be used to mask non-environmental motives for opposing the project. This is not to say that cultural and aesthetic bias are not relevant concerns. As Rozak defines it, the "myth of scientific objectiveness" often colors much of what environmental impact analysis is expected to achieve. Cultural and aesthetic biases may be good reasons for defeating a project, but the misuse of environmental impact analysis to achieve that end can only impair the efforts to achieve higher environmental quality.

On the other hand, developer interests - including the professional design consultants assisting those interests - will have to accept the fact that discovery of adverse environmental impacts at any stage of the design process presents a real possibility of wasted funds and effort - and that considerable energy should be expended in the beginning to discern the environmental implications of a project program. Opening the planning and design process to objective evaluation by environmental interests and their consultants is obviously time consuming and expensive, but the additional time and money is worth it if potential future litigation and court-directed program changes or disapprovals are avoided.

INTRODUCTION

This report has been prepared to assist the Boston Redevelopment Authority in formulating a systematic approach to the environmental evaluation of the Park Plaza development project. It assesses, but does not validate, existing data and information, prepared by others into the environmental impacts of the Park Plaza project. This report provides:

- A definition of the general environmental impact issues created by the Park Plaza Project.
- An analysis and evaluation of all existing studies and relevant reports, plans and programs as they relate to the Park Plaza Project and its impact on the natural, physical, social and economic environmental resources of the project site, its immediate environs, and the City and general metropolitan region of Boston, Massachusetts.
- A listing of the environmental potentials and limitations of the Park Plaza Project illustrated where possible with the articulation of general environmental impact situations and general standards and criteria for sustaining and enhancing environmental quality.
- A recommended work program for the conduct of such detailed and further refined environmental analysis as may be required to comprehensively and accurately monitor and evaluate the environmental impact of Park Plaza during planning and construction.

It is anticipated that this "framework" report would be followed up by additional, more detailed, environmental analysis as may be required to insure that the Park Plaza project would be carried out in a manner which would enhance, and not merely sustain, the quality of Boston's urban environment.

Park Plaza is a proposed $260 million redevelopment of 35 acres of existing urban land on the south side of the Boston Common and Public Garden in downtown Boston. Proposed plans call for the reuse of the area for retail trade, offices, hotel, parking and housing. The Boston Redevelopment Authority has programmed the project as a non federal-assisted urban renewal project which means, essentially, that the redeveloper will acquire the land, relocate the current tenants, demolish the existing development and redevelop the site under criteria established by the Redevelopment Authority. The City of Boston has approved of the project as an urban renewal area.

State government findings are required as to:

- Project eligibility for urban renewal and compliance with requirements for the conduct of urban renewal activities.

- Authority consideration of the environmental impacts of the project.

This report is concerned only with the environmental impact assessment. The size and complexity of the Park Plaza project have generated substantial public debate - and this is commensurate with the complex potential environmental impacts of the project. The resolution of the Park Plaza impact issues will have considerable bearing on the future of urban growth in the Commonwealth.

It is important, therefore, that the decision-making with respect to the Park Plaza project's environmental potentials and limitations clearly distinguish between issues which are capable of scientific description, measurement and evaluation; and those which represent abstract, subjective judgments as to the value of economic growth or the aesthetic quality of the urban design plan.

These latter issues, of course, cannot be dismissed as mere cultural differences of opinion, but the proper arena for their resolution is governmental as opposed to technical. Inserting such issues into administrative proceedings can lead to considerable confusion and wasted effort, and ultimately adversely affect public support for proper application of environmental impact assessment legislation.

The Park Plaza site presents an environmental impact analysis problem for which there is little precedent and it is not possible to provide a precise and exact environmental assessment of the project without further data development, analysis, monitoring and evaluation during the entire course of the project.

As an urban renewal project, the base environmental context of the project - the setting against which proposed changes are to be measured and evaluated - is already an environment profoundly manipulated by man in the past. It has been severely changed from the original natural environment, and has been changed incrementally but continually as a man-built environment. It will continue to change with or without Park Plaza.

It would appear, therefore, that the objective of environmental impact analysis, in this particular circumstance, is not so much a matter of protecting a natural environs from man's action, but rather a matter of clarifying the nature of proposed actions so that any clearly adverse consequences and costs are identified beforehand and appropriate actions taken to minimize such impacts. This makes the task much more complicated and subject to cultural value judgments.

What this report attempts to do, therefore, is systematically raise the relevant questions. Some of them may be answered quickly and quite easily, others only after elaborate study and painful debate. In doing this there is at least an implied intent to avoid actions which are detrimental to the environment or provide appropriate compensation where such actions cannot be avoided.

SUMMARY FINDINGS AND RECOMMENDATIONS

- The construction of the Park Plaza project would generate approximately 1300 environmental impacts affecting the natural, built-physical, socio-political and economic conditions or characteristics of the project site and/or local and area-wide environments.

- Out of more than 1300 impacts some 340 or about one quarter can be considered significant enough to require further analysis and evaluation as part of a definitive environmental impact analysis process. Many of these impacts, it should be noted, are simply more specific components of larger, more generally stated impacts which would be analyzed as a single group of impacts.

- Certain impacts are implicit in the program for redevelopment of the Park Plaza site. Some of these are irreversible once program approval is given and, therefore, should receive thorough pre-design analysis and evaluation as part of a proper and responsible environmental impact evaluation.

- A second group of resource commitments are also implicit in the program but are judged to be reversible. While these are less serious than are irreversible impacts, they still require thorough pre-design analysis and evaluation.

- A third group of resource commitments are also judged to be reversible but not implicit in the project program. These potential impacts can be resolved during design of the project.

- Significant data and information are being generated and collected regarding the potential environmental impact of the Park Plaza project. As this report indicates, a primary task is the establishment of an ordered, systematic approach to the analysis and presentation of this complex array of information. Without such a framework, missing primary data tend to be overlooked or problems dismissed without reference to reliable factual information or analyses which would document the basis for needed action. This report recommends such a framework for further environmental evaluation of Park Plaza.

- It is recommended that the Boston Redevelopment Authority undertake the additional studies required to evaluate the most critical impacts of the Park Plaza project as defined in this report. This analysis should be conducted on the basis of the current given program for the redevelopment of the project site, but should include the testing and analysis of the impacts of alternative design configurations on the micro-climate of the site and its environs, and the impact of the alternative designs on the built-physical forms of the city.

- In the event that further refined analysis of the environmental impacts of the project indicates a high probability of permanent adverse impacts which cannot be reversed or alleviated by current technological or program means, the program for the redevelopment of the Park Plaza site should be subject to such revision as may be necessary to avoid such adverse impact.

It is further recommended that the environmental evaluation study give consideration to potential changes on future programming. By necessity, such a study process must be as flexible as possible in order to reflect unknown future social, political, and economic changes which are inherent in the American System. Many major projects have been subject to significant changes in philosophy by these outside unknown influences during planning and construction and to ignore such possibility in Park Plaza or any other major development would be unrealistic.

PART I - ENVIRONMENTAL IMPACT ISSUE DEFINITION

The first step in the development of an environmental impact analysis is the definition of potential environmental impacts and issues. This process provides two major products - it defines the analytical base of the environment and establishes the priorities for analysis of issues.

In initiating this work, it is necessary to have a preliminary program for the proposed project. This program should also reflect the maximum development anticipated so that later program adjustments are reductions, rather than expansions, of environmental impacts.

Without the availability of detailed data and information regarding both the environmental base and proposed program for the project, the environmental impacts identified at this stage are defined as "potential" impacts, as distinguished from "probable" impacts. After definition of a potential impact, detailed data and information may indicate that the potential impact will not occur.

Thus, in reviewing the impact issues and their significance and priorities as developed in this report, it is essential to keep the consideration of these issues in the context of potential impacts rather than probable impacts.

A. Identification of Environmental Impact Issues

A key requirement of the Boston Redevelopment Authority governing the environmental issue evaluation was an independent, objective approach which would be applied comprehensively and systematically to define the potential environmental impacts of the Park Plaza project.

To accomplish this, a matrix was designed to identify the relationship between proposed actions which might affect the environment, and conditions and characteristics describing the environment.

The urban redevelopment process was subdivided into 45 separate steps or activities beginning with land acquisition and culminating in the occupancy and use of the project and demand/consumption activities associated with the use of the project.

The description of the "environment" was subdivided into four major environmental categories each of which was further subdivided to form a combined total of 250 separate characteristics or conditions of the environment.

The resulting matrix, therefore, displays over 10,000 intersects, each of which has been evaluated for possible impact relationship. The evaluation produced approximately 1300 potential environmental impacts.

B. Significance of Potential Environmental Impact Issues

Each of the potential impacts were next evaluated from the standpoint of four significance factors:

- Duration of Impact:
  - permanent
  - temporary
- Nature of Impact:
  - adverse
  - beneficial
- Magnitude of Impact:
  - major
  - minor
- Scope of Impact:
  - regional
  - local

These terms are further defined as follows:

> "Duration of Impact" refers to the broad time frame during which the impact will occur. Permanent means that once the action or activity takes place, the impact will continue or will have a lasting effect on the environment. Temporary means that the impact will be restricted to a definable time frame - such as the construction period. Some temporary impacts may last for several years. Definition of the exact time span of temporary impacts would be made in subsequent analysis.

"Nature of Impact" refers to the possible effect of the action or activity on the existing environment. Adverse means that the impact can (but not necessarily will) result in a degradation of existing environmental quality. Beneficial means that the action will always tend to improve environmental quality. This definition purposely "favors" the identification of adverse impact under the assumption that it is in the developer's interest to clearly understand all direct and indirect cost aspects of the project. In addition, in environmental impact assessment the burden of proof is on the developer. The determination for approval is based on the developer's demonstrated knowledge of and capacity to avoid or minimize potential adverse effects, not on the ability to maximize benefits of the action. In considering the detailed impact issues presented further on in this report it is necessary to remember that many potential adverse impacts may later prove to be beneficial, and that this process, unlike a cost-benefit analysis, is not an attempt to "balance" potential impacts.

"Magnitude of Impact" refers to the degree to which the action or activity will change the existing environment. Since this judgement is heavily related to specific knowledge of both the proposed development program and the environmental context for the project, it is the most subjective judgement at this stage. Major magnitude means that the impact will substantially and noticeably change the existing environment. Minor means that the change will be of a relatively small magnitude. Where uncertainty existed regarding the magnitude of a potential impact - it was considered major.

"Scope of Impact" refers to the geographical area of the impact. Local means that the impact would affect only a small area - the project site and/or its immediate environs, or an off-site location. Regional means that the impact will affect a much broader area either in conjunction with, or as distinct from the site proper and immediate environs. Some regional impacts would be city-wide, others metropolitan, state, or interstate in scope.

After assessing each of the potential impacts on the basis of the above significance factors, a synthesis matrix was prepared to define which potential impacts had the most significance factors.

While this evaluation provides sixteen different combinations of the above significance factors, these were reduced to five basic categories of issue significance.

It is important to note that the synthesis chart does not result in an evaluation of graded degrees of "desirability" or "undesirability" of proposed actions, although all actions in the highest classification have adverse impacts.

The significance evaluation of the 1300 potential environmental impacts resulted in 337 issues in the top two classes of:

- Permanent, adverse, major, regional impacts.
- Impacts with any three of the above significance factors.

C. Priorities of Environmental Impact Issues

Each of the 337 top priority impact issues were then evaluated in an effort to determine the priorities for their analysis and resolution. Factors considered in the evaluation of priorities were:

- Resource Committment
  - Irreversible
  - Reversible
- Planning Committment
  - Pre-design
  - During design
- Control Jurisdiction
  - Outside agent
  - Project agent
- Control Capacity
  - Future
  - Current

This matrix analysis differs from the previously described analysis for issue significance and requires the following clarification.

> "Resource Committment" defines the most urgent environmental impact issues. Irreversible means that the environmental impact, once it occurs, is not capable of being reversed, minimized, and/or avoided by existing available technology or program means.

"Planning Committment" defines the point at which decision-making generates an impact and hence the point prior to which the potential impact should have full analysis and evalution. "Pre-design" means that the environmental impact is implicit in the program for the project and that no amount of design manipulation can radically affect the outcome. On the other hand, "During design" means that the potential impact is related to the design of the project and can therefore be manipulated.

"Control Jurisdiction" defines the agent with responsibility for the control of the impact. "Outside agent" means that an agency other than the Boston Redevelopment Authority will be responsible for the technology or program necessary to control the impact.

"Control Capacity" defines the potential for technological or program control of the impact. "Future" means that the technology or program is not immediately available.

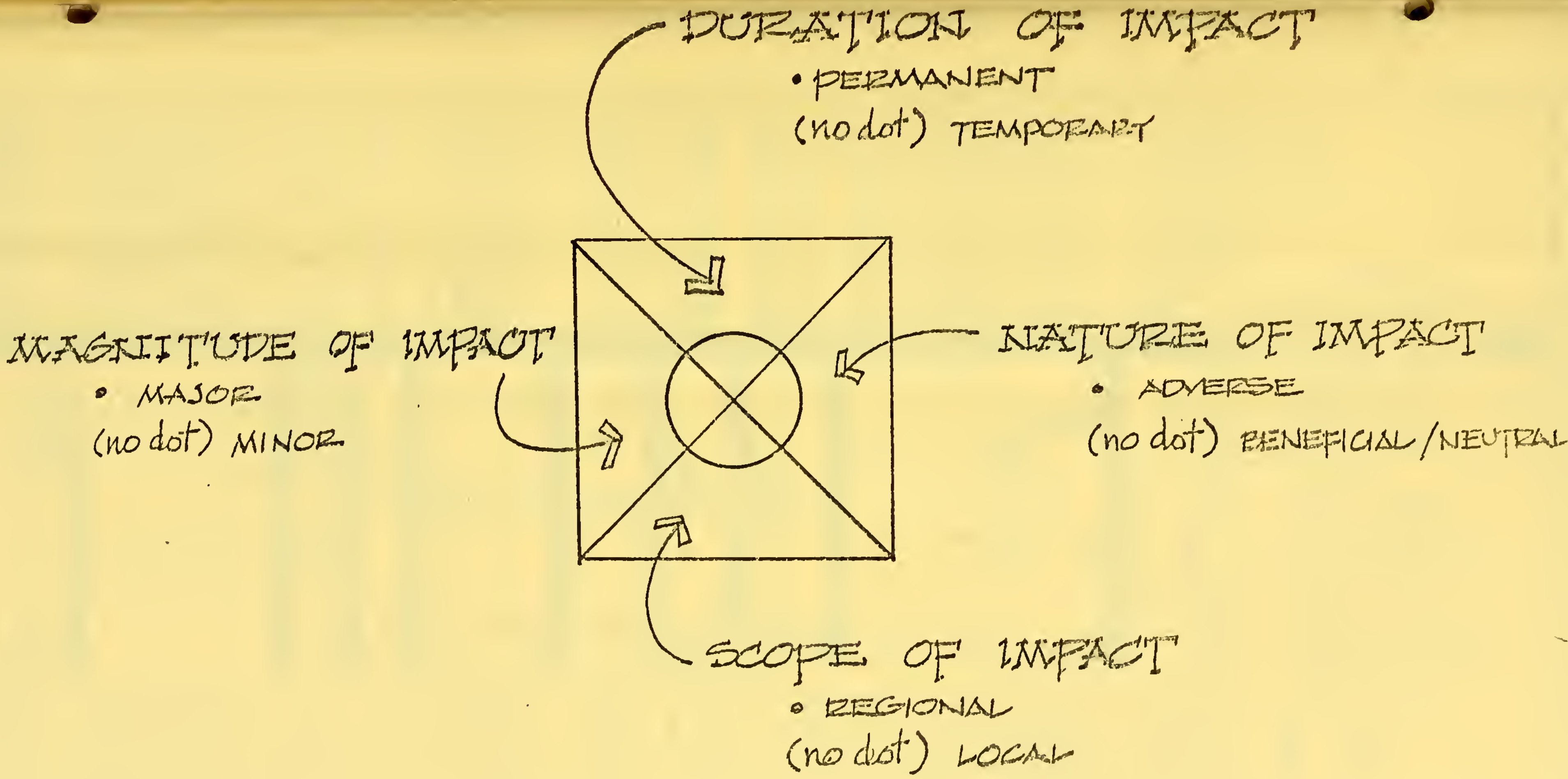
For example, the construction of the superstructure will affect solar exposure of adjacent areas - particularly the Common and Public Garden.

This impact has a top priority for analysis because it is "irreversible" resource commitment, and the fact that it will occur is implicit in the project program or "pre-design" stage of planning committment.

Irreversible impacts are not subject to control and, therefore, irreversible impacts are not evaluated with respect to control jurisdiction or control capacity.

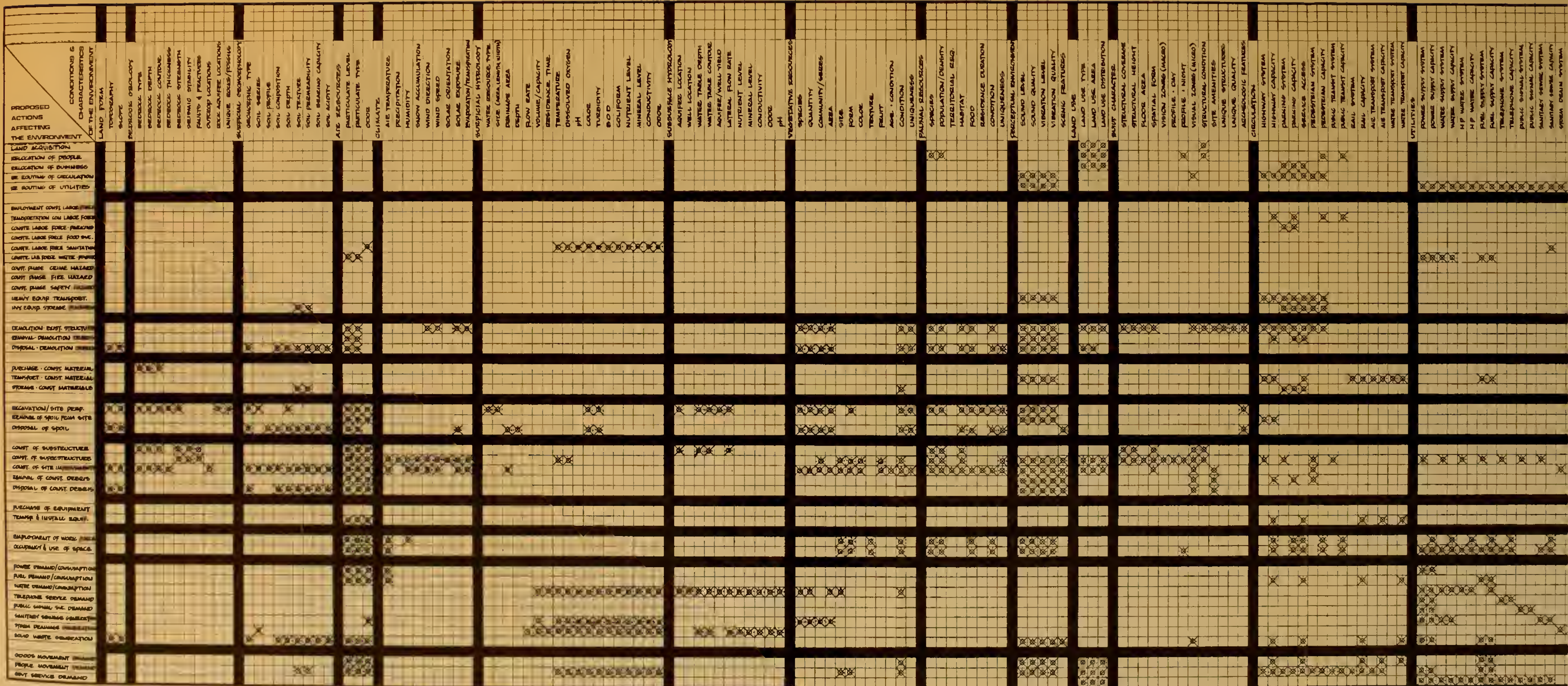
As another example, occupancy and use of the space will affect parking capacity. This impact is reversible, but it is a pre-design commitment implicit in the program. It is also controllable by an outside agent rather than the Boston Redevelopment Authority, and the program capacity to control it currently exists.

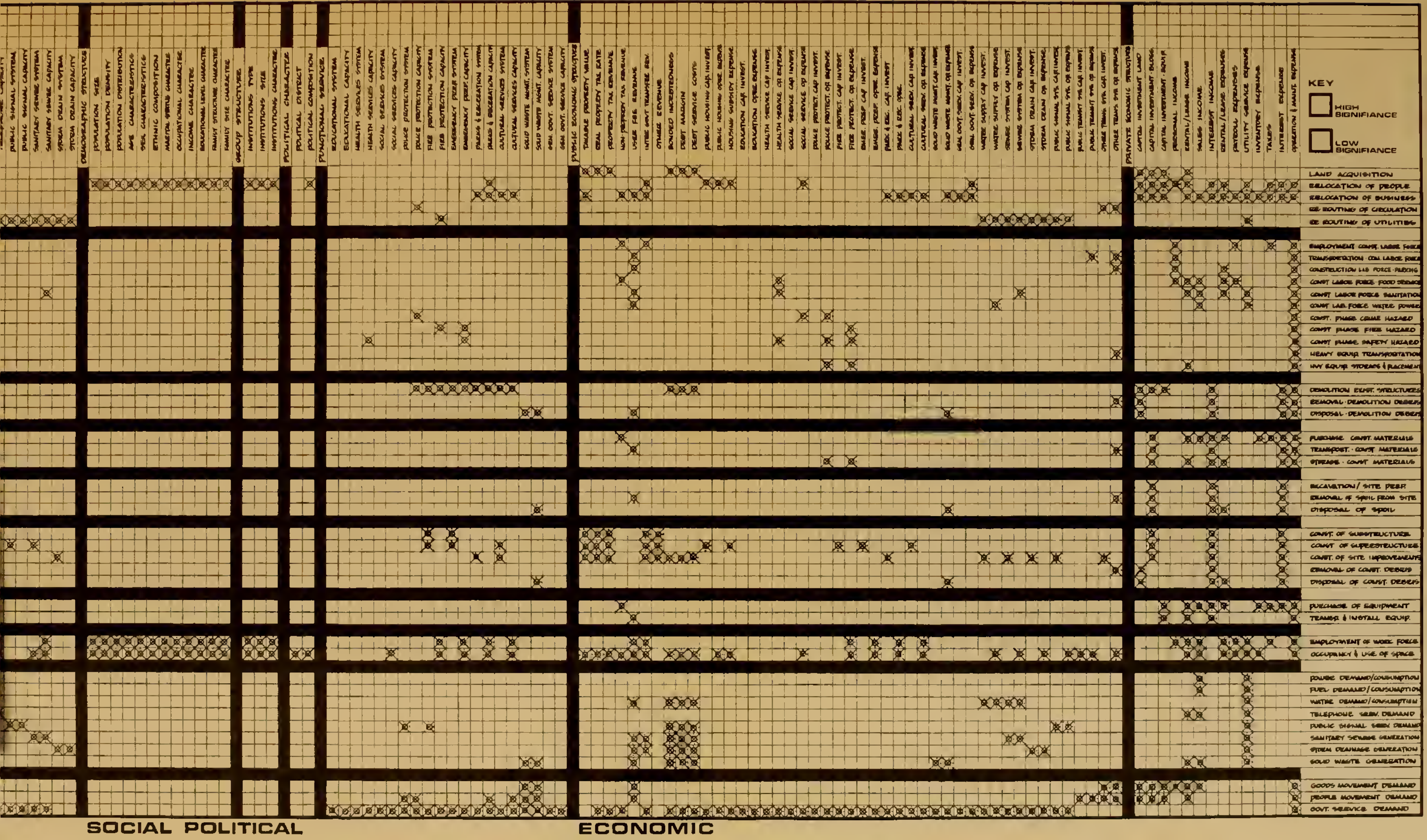
The environmental impact issue priority evaluation results in the classification of 168 irreversible, pre-design commitment issues; 106 reversible, pre-design commitment issues, and 62 reversible, during-design commitment issues.



KEY - SIGNIFICANCE SYNTHESIS (BY TOTAL NUMBER OF DOTS)

4 DOTS · RED (HIGH SIGNIFICANCE)
3 DOTS - ORANGE
2 DOTS - YELLOW
1 DOT YELLOW GREEN
NO DOTS - PALE OLIVE (LOW SIGNIFICANCE)


CONDITIONS & CHARACTERISTICS OF THE ENVIRONMENT
PROPOSED ACTIONS AFFECTING THE ENVIRONMENT
LAND FORM
TOPOGRAPHY
SLOPE
BEDROCK GEOLOGY
BEDROCK TYPE
BEDROCK DEPTH
BEDROCK CONTOUR
BEDROCK THICKNESS
BEDROCK STRENGTH
SEISMIC STABILITY
FAULTS & FRACTURES
OUTCROP LOCATIONS
ROCK AQUIFER LOCATIONS
UNIQUE ROCKS/FOSSILS
SURFICIAL GEOMORPHOLOGY
GEOMORPHIC TYPE
SOIL SERIES
SOIL PROFILE
SOIL COMPOSITION
SOIL DEPTH
SOIL TEXTURE
SOIL PERMEABILITY
SOIL BEARING CAPACITY
SOIL ACIDITY
AIR RESOURCES
PARTICULATE LEVEL
PARTICULATE TYPE
ODOR
CLIMATE
AIR TEMPERATURE
PRECIPITATION
HUMIDITY
SNOW ACCUMULATION
WIND DIRECTION
WIND SPEED
SOLAR ORIENTATION
SOLAR EXPOSURE
EVAPORATION/TRANSPIRATION
SURFICIAL HYDROLOGY
WATER RESOURCE TYPE
SIZE (AREA, LENGTH, WIDTH)
DRAINAGE AREA
DEPTH
FLOW RATE
VOLUME/CAPACITY
RESIDENCE TIME
TEMPERATURE
DISSOLVED OXYGEN
pH
COLOR
TURBIDITY
BOD
COLIFORM
NUTRIENT LEVEL
MINERAL LEVEL
CONDUCTIVITY
ODOR
SUBSURFACE HYDROLOGY
AQUIFER LOCATION
WELL LOCATION
WATER TABLE DEPTH
WATER TABLE CONTOUR
AQUIFER/WELL YIELD
LATERAL FLOW RATE
NUTRIENT LEVEL
MINERAL LEVEL
CONDUCTIVITY
ODOR
pH
VEGETATIVE RESOURCES
SPECIES
QUANTITY
COMMUNITY/SERIES
AREA
SIZE
FORM
COLOR
TEXTURE
FRUIT
AGE · CONDITION
CONDITION
UNIQUENESS
FAUNAL RESOURCES
SPECIES
POPULATION/DENSITY
TERRITORIAL REQ.
HABITAT
FOOD
RESIDENCE DURATION
CONDITION
UNIQUENESS
PERCEPTUAL ENVIRONMENT
SOUND LEVEL
SOUND QUALITY
VIBRATION LEVEL
VIBRATION QUALITY
SCENIC FEATURES
LAND USE
LAND USE TYPE
LAND USE AREA
LAND USE DISTRIBUTION
BUILT CHARACTER
STRUCTURAL COVERAGE
STRUCTURAL HEIGHT
FLOOR AREA
SPATIAL FORM
VISION ZONES (MACRO)
PROFILE · DAY
PROFILE · NIGHT
VISUAL ZONES (MICRO)
STRUCTURAL CONDITION
SITE AMENITIES
UNIQUE STRUCTURES
UNIQUE QUALITY
ARCHEOLOGIC FEATURES
CIRCULATION
HIGHWAY SYSTEM
HIGHWAY CAPACITY
PARKING SYSTEM
PARKING CAPACITY
SERVICE ACCESS
PEDESTRIAN SYSTEM
PUBLIC TRANSIT SYSTEM
PUBLIC TRANSIT CAPACITY
RAIL SYSTEM
RAIL CAPACITY
AIR TRANSPORT SYSTEM
AIR TRANSPORT CAPACITY
WATER TRANSPORT SYSTEM
WATER TRANSPORT CAPACITY
UTILITIES
POWER SUPPLY SYSTEM
POWER SUPPLY CAPACITY
WATER SUPPLY SYSTEM
WATER SUPPLY CAPACITY
HP WATER SYSTEM
HP WATER CAPACITY
FUEL SUPPLY SYSTEM
FUEL SUPPLY CAPACITY
TELEPHONE SYSTEM
TELEPHONE CAPACITY
PUBLIC SIGNAL SYSTEM
PUBLIC SIGNAL CAPACITY
SANITARY SEWER SYSTEM
SANITARY SEWER CAPACITY
STORM DRAIN SYSTEM
LAND ACQUISITION
RELOCATION OF PEOPLE
RELOCATION OF BUSINESS
RE-ROUTING OF CIRCULATION
RE-ROUTING OF UTILITIES
EMPLOYMENT CONST. LABOR FORCE
TRANSPORTATION CON. LABOR FORCE
CONSTR. LABOR FORCE · PARKING
CONSTR. LABOR FORCE FOOD SVC.
CONSTR. LABOR FORCE SANITATION
CONSTR. LAB FORCE WATER
CONST. PHASE CRIME HAZARD
CONST. PHASE FIRE HAZARD
CONST. PHASE SAFETY
HEAVY EQUIP. TRANSPORT.
HVY EQUIP. STORAGE
DEMOLITION · EXIST. STRUCTURES
REMOVAL · DEMOLITION
DISPOSAL · DEMOLITION
PURCHASE · CONST. MATERIAL
TRANSPORT · CONST. MATERIAL
STORAGE · CONST. MATERIALS
EXCAVATION/SITE PREP.
REMOVAL OF SPOIL FROM SITE
DISPOSAL OF SPOIL
CONST. OF SUBSTRUCTURE
CONST. OF SUPERSTRUCTURE
CONST. OF SITE
REMOVAL OF CONST. DEBRIS
DISPOSAL OF CONST. DEBRIS
PURCHASE OF EQUIPMENT
TRANSP. & INSTALL EQUIP.
EMPLOYMENT OF WORK FORCE
OCCUPANCY & USE OF SPACE
POWER DEMAND/CONSUMPTION
FUEL DEMAND/CONSUMPTION
WATER DEMAND/CONSUMPTION
TELEPHONE SERVICE DEMAND
PUBLIC SIGNAL SVC. DEMAND
SANITARY SEWAGE GENERATION
STORM DRAINAGE
SOLID WASTE GENERATION
GOODS MOVEMENT
PEOPLE MOVEMENT
GOVT SERVICE DEMAND
NATURAL PHYSICAL
BUILT PHYSICAL



PARK PLAZA

ENVIRONMENTAL EVALUATION

PREPARED FOR

BOSTON REDEVELOPMENT AUTHORITY
CITY HALL
BOSTON MASS

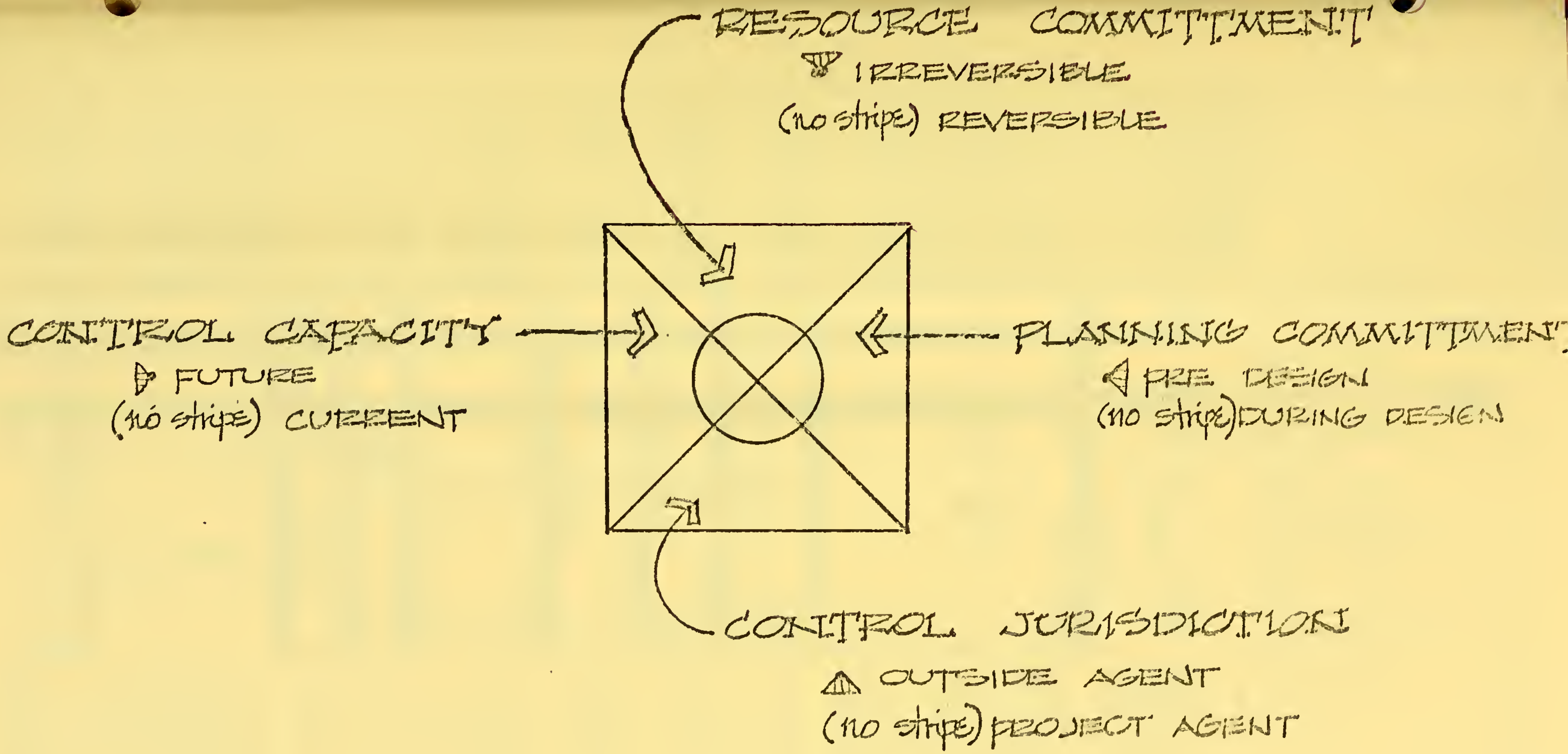
PREPARED BY

THE SARATOGA ASSOCIATES
THE ARCADE
SARATOGA SPRINGS NY
A PARTNERSHIP OF
BRISTOL LEAVER [illegible]
HOLLISTER AND MOORE PC
LANDSCAPE ARCHITECTS
ARCHITECTS AND PLANNERS
AND
ECOPLANS INC
A CORPORATION
FOR ENVIRONMENTAL PLANNING

ENVIRONMENTAL IMPACT MATRIX

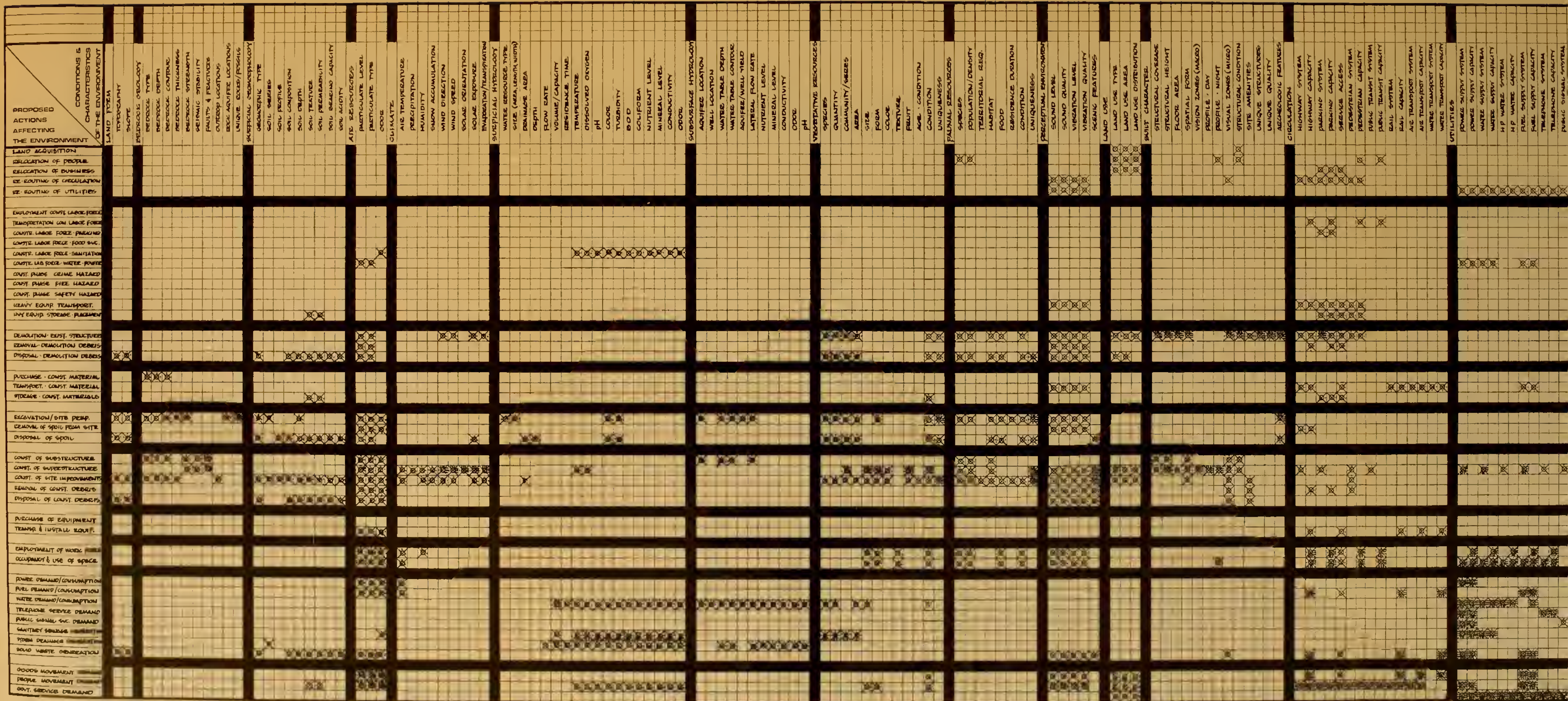
SYNTHESIS

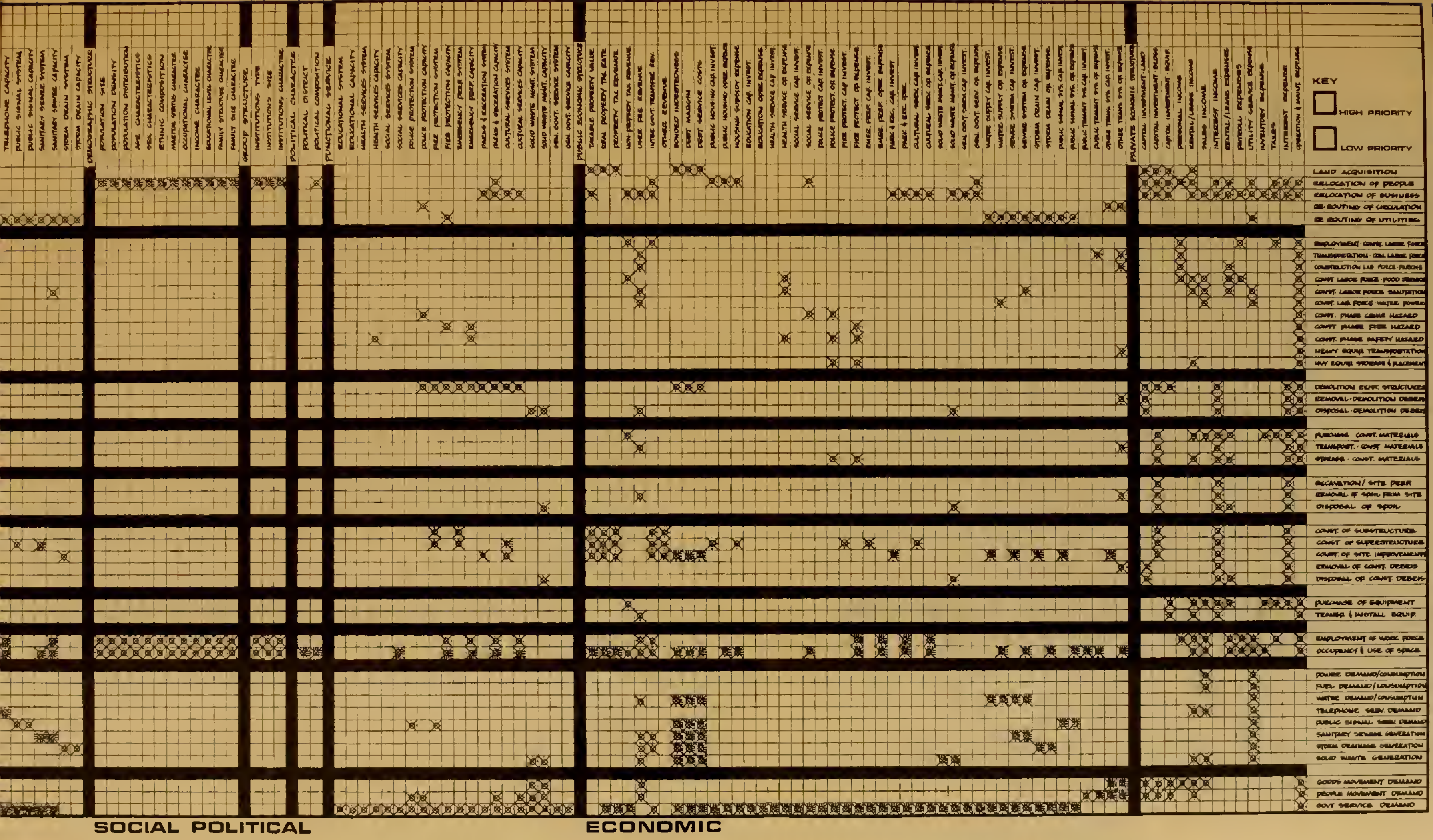
APRIL 1973



KEY - PRIORITY SYNTHESIS

IRREVERSIBLE - RED
PRE - DESIGN - ORANGE
REVERSIBLE / DURING DESIGN - YELLOW





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ENVIRONMENTAL IMPACT MATRIX

SYNTHESIS

APRIL 1973

CONDITIONS & CHARACTERISTICS

PROPOSED
ACTIONS
AFFECTING
THE ENVIRONMENT

INSTITUTIONS CHARACTER
POLITICAL CHARACTER
POLITICAL DISTRICT
POLITICAL COMPOSITION
FUNCTIONAL SERVICE
EDUCATIONAL SYSTEM
RENTAL/LEASE INCOME
SALES INCOME
INTEREST INCOME
RENTAL/LEASE EXPENSES
PAYROLL EXPENSES
UTILITY SERVICE EXPENSE
INVENTORY EXPENSE
TAXES
INTEREST EXPENSE
OPERATION & MAINT. EXPENSE

KEY

☐ HIGH PRIORITY

☐ LOW PRIORITY

LAND ACQUISITION
RELOCATION OF PEOPLE
RELOCATION OF BUSINES
RE-ROUTING OF CIRCULAT
RE-ROUTING OF UTILITIE

EMPLOYMENT · CONST. LABOR F
TRANSPORTATION · CON. LABOR F
CONSTR. LABOR FORCE · PARK
CONSTR. LABOR FORCE · FOOD S
CONSTR. LABOR FORCE · SANITA
CONSTR. LAB. FORCE · WATER · PO
CONST. PHASE CRIME HAZA
CONST. PHASE FIRE HAZA
CONST. PHASE SAFETY HAZ
HEAVY EQUIP. TRANSPORT
HVY. EQUIP. STORAGE · PLACE

DEMOLITION · EXIST. STRUCTU
REMOVAL · DEMOLITION DEB
DISPOSAL · DEMOLITION DEB

PURCHASE · CONST. MATERI
TRANSPORT. · CONST. MATERI
STORAGE · CONST. MATERIAL

EXCAVATION/SITE PREP.
REMOVAL OF SPOIL FROM SIT
DISPOSAL OF SPOIL

CONST. OF SUBSTRUCTURE
CONST. OF SUPERSTRUCTUR
CONST. OF SITE IMPROVEME
REMOVAL OF CONST. DEBRI
DISPOSAL OF CONST. DEBR

PURCHASE OF EQUIPMENT
TRANSP. & INSTALL EQUIP.

EMPLOYMENT OF WORK FO
OCCUPANCY & USE OF SPAC

POWER DEMAND/CONSUMPTI
FUEL DEMAND/CONSUMPTIO
WATER DEMAND/CONSUMPTION
TELEPHONE SERVICE DEMAN
PUBLIC SIGNAL SVC. DEMAN
SANITARY SEWAGE GENERAT
STORM DRAINAGE GENERATI
SOLID WASTE GENERATION

GOODS MOVEMENT DEMAN
PEOPLE MOVEMENT DEMAN
GOVT. SERVICE DEMAND

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PART II - ANALYSIS AND EVALUATION OF EXISTING DATA

On the basis of the two top priority classes of significant environmental impact issues, an evaluation has been made of the existing data and information for completing a full environmental impact analysis of the Park Plaza development.

As the following specific issue sheets indicate, there have been considerable data and information compiled which contribute to an understanding of the project's environmental impact.

More refined analyses of most of these impact issues would require additional data development.

The following are general comments regarding refinement of either data or methodology:

- Natural physical environment impacts mostly require more definitive analysis of existing data and/or data which is readily synthesized.
- Built physical environment impacts require more graphic presentation of changes proposed in the structural form of the project site and environs. New use relationships to existing utility and circulation systems require better correlation of program proposals with the capacities of existing systems.
- Socio-Political environmental impacts have been described primarily in terms of urban redevelopment objectives and urban social structure. The demands of the changing social structure on the municipal service system, however, have not been fully investigated.
- Economic environmental impacts have stressed the attractive aspect of a major private - public development interest, but there is need for a more comprehensive analysis of public costs and benefits, with particular emphasis on those indirect costs required for the development and maintenance of public infrastructure to serve the project.

N	P			1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of the substructure and superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Bedrock faults and fractures

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of the Park Plaza substructure and superstructure be effected by faults or fractures in the bedrock foundation?

Would Park Plaza require more expensive "quake-proof" foundation construction standards?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Geological survey of bedrock including:		
Bedrock depth	YES	#53,
Bedrock type	YES	Set A
Locations of any existing faults and fractures	NO	
Historic data on area seizure activity	NO	
Building weight computations	NO	
Protective legislation (if any)	UNKNOWN	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P			2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Excavation/Site preparation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Unique rocks and fossils

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the excavation and/or site preparation for Park Plaza disturb any known or potential areas of unique bedrock and fossil features?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Historic data on subsurface conditions in general area	YES	#53
Bedrock depth	YES	Set A
Soil types and dates of surficial geomorphic structure	YES	Set A
Boring logs	YES	Set A

EVALUATION OF IMPACT POTENTIAL:

N	P			3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Goods and people movement demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Air quality particulate levels

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the goods and people movement generated by Park Plaza effect air quality particulate levels?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected daily volume of goods and traffic to and from Park Plaza, by mode	YES	#18,25, 26,27,50 177
Regional origin and destinations of goods and traffic	YES	#158
Projected fuel energy consumption by mode/location	NO	
Current particulate level isopleth	TSA	
Projected particulate level isopleth	NO	
Air quality standards	YES	#12,121, 122

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P			4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Goods and people movement demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Air quality particulate types

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the goods and people movement demand generated by Park Plaza effect air quality particulate types?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected daily volume of goods and traffic to and from Park Plaza by mode	YES	#50,177, 180
Regional origin and destination of goods and traffic	YES	#25,26,27 158
Projected fuel/energy consumption by mode and location	NO	
Current particulate type isopleth	YES	TSA
Projected particulate type isopleth	NO	
Air quality standards	YES	#121,122, 124

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P			5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Goods and people movement demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Air quality odor

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the goods and people movement demand generated by Park Plaza effect air quality odor?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected daily volume of goods and traffic to and from Park Plaza	YES	#50,177, 180
Regional origin and destination of goods and traffic	YES	#25,26,27 158
Projected fuel/energy consumption by mode/location	NO	
Current odor isopleth	NO	
Projected odor isopleth	NO	
Air quality standards	YES	#121,122, 124

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P			6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Wind direction and wind speed

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	specific impact
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	during design
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

Will the proposed design of Park Plaza generate adverse wind directions and speeds effects on ground environments and structural envelopes?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Structural design proposal	YES	#8,11,51, 54
Surface wind roses	YES	#128
Experimental research data on impact of high rise structures on wind directions	PARTIAL	#129,130, 131,132, 133,134 137,178 201,211 212

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P			7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Solar orientation

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	Site and environs
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT		PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza tower buildings change the amount of surface orientation toward the sun? How will the extent of new surface oriented toward the sun effect energy requirements and construction requirements? What special measures will be taken to avoid adverse thermal effects?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Solar diagrams for project area	YES	Set A
Project massing diagram	YES	#8,11,51
Climatic data - days of sunshine	YES	#126,127, 54
Surface material specification	NO	

EVALUATION OF IMPACT POTENTIAL:

N	P			8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Solar exposure

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	Specific impact during design
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of the Park Plaza towers alter the solar exposure of the environs - particularly the Boston Common and Public Garden? What effect will this have on vegetation, ground temperature and general conditions of adjacent spaces and buildings?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Solar diagrams for project site	YES	Set A
Project massing diagram	YES	#8,11,51, 54
Projected shadow patterns	YES	TSA
Climatic data - days of sunshine	YES	#126,127
Current data on vegetative condition and plant physiological requirements, ground temperatures and light levels	PARTIAL	#114

EVALUATION OF IMPACT POTENTIAL:

N	P			9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of the superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Evaporation/transpiration

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	Specific impact during design
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of the Park Plaza towers change evaporation and transpiration rates due to changes in wind conditions and solar exposure? How will this effect vegetation and humidity conditions?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Solar diagrams for project site	YES	Set A #8,11,51, 54
Project massing diagram	YES	
Projected shadow patterns	YES	TSA #126,127, 128
Climatic data - days of sunshine and wind roses	YES	
Projected wind effects	NO	
Current data on evaporating/plant transpiration/ humidity	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Water demand/consumption

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Surface water volume capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		HIGHER		LOWER	COMMENT
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	Refine during design
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	municipal water
CONTROL CAPACITY		FUTURE		CURRENT	authority unknown

SPECIFIC PROJECT ISSUE:

How much water will be required for daily storage and consumption for all purposes related to Park Plaza and how will this effect existing water supply, storage, treatment and pumping capacity?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected day and night population of project including residents, employees, visitors	YES	#1,2,6,9
Projected water using fixtures and requirements	PARTIAL	#4,5
Data on existing water supply source, storage, treatment and pumping facilities and other demands (current and projected) on water supply system	PARTIAL	#59

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Sanitary sewage generation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Surface water volume/capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	Possible/unknown
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How much sewage will be generated by Park Plaza and how will this effect surface water supply, storage, treatment and pumping capacity?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected day and night population of project including residents, employees, visitors	YES	#1,2,8,9
Projected domestic and other sewage flows	PARTIAL	#4,5
Treatment plant location and treatment time, discharge volume	PARTIAL	Sets A,B, C

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Storm drainage generation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Surface water volume/capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	Possible/unknown
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT		PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

How much storm drainage will be generated by Park Plaza and how will this effect surface water volume/capacity at storm drainage discharge points.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Mean maximum precipitation	YES	#126,127
Surface catchment area of project	PARTIAL	Set B
Volume of storm water runoff	NO	
Discharge location	NO	
Volume and capacity of receiving basin	NO	

EVALUATION OF IMPACT POTENTIAL:

N	P		1	3

The Saratoga Associates

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vegetative resource community/seres

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	Common/Public Garden
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	Dept. of Parks
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the construction of the Park Plaza towers effect the vegetative communities and successions in the surrounding environs such as the Boston Common and Public Garden due to alterations in solar exposure, temperature, humidity, wind direction and speed.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of vegetation in project environs	YES	#112,114, Set F
Data on species and community and natural successions	YES	#112,113, TSA
Data on changes in:		
Solar exposure	YES	Set A
Wind direction and speed	NO	
Ground temperature	NO	
Humidity	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vegetative resource, size of species

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of the Park Plaza towers effect the size of trees and shrubs in the Boston Common and Public Gardens due to building-caused changes in solar exposure and wind.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of vegetation in project environs	YES	#112,114, Set F
Data on species size	NO	
Experimental research data on impact of shade, wind on similar species	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vegetative resource, form of species

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza towers effect the form of trees and shrubs in the Boston Common and Public Garden due to building-caused changes in solar exposure and wind?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of vegetation in project environs	YES	#112,114 Set F
Photographs of vegetation	PARTIAL	#13
Experimental research data on impact of shade, wind on vegetative form	PARTIAL	#113
Structural design proposal	YES	#8,11,51, 54

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of the superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vegetative resource, fruiting

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza towers effect the fruiting of trees and shrubs in the Boston Common and Public Garden due to building-caused changes in solar exposure and wind.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of vegetation in project environs	YES	#112,114 Set F
Experimental research data on impact of shade, wind on vegetative fruiting	PARTIAL	#113
Structural design proposal	YES	#8,11,51, 54

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vegetative resources, condition of species

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza towers effect the condition of trees and shrubs in the Boston Common and Public Garden?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of vegetation on project environs	YES	#112,114, Set F
Evaluation of existing vegetative conditions	YES	#112
Experimental research data on impact of shade, wind, or vegetative condition	PARTIAL	#113
Structural design proposal	YES	#8,11,51, 54

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		1	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Site preparation and excavation
Construction of superstructure and site improvement

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Unique faunal resources

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	Possible/unknown
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will the construction of the Park Plaza superstructure cause any potential adverse conditions of habitats for unique faunal species such as migratory waterfowl?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Structural design proposal	YES	#8,11,51 54
Ornithological survey for unique species	NO	
Evaluation of micro-climate impact on faunal habitats in environs	NO	

EVALUATION OF IMPACT POTENTIAL:

N	P		1	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People movement demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Sound quality

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the traffic movement generated by Park Plaza effect the acoustical quality of sound in the environs of the project site?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected daily volume of people movement to and from project	YES	#50,177, 180
Regional origin and destination of traffic structural material for proposed project current noise levels	YES	#25,25,77, 158
Projected noise levels	NO	
Noise quality standards	YES	#118,119
Research on experimental with acoustical materials	PARTIAL	TSA

EVALUATION OF IMPACT POTENTIAL:

N	P		2	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Sound Levels

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the traffic movement generated by Park Plaza increase noise levels in the environs of the project site?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected daily volume of people movement to and from project	YES	50,177,180
Regional origin and destination of traffic	YES	25,26,27,25
Current noise levels	NO	
Projected noise levels	NO	
Noise quality standards	YES	118,119
Research on noise level abatement	PARTIAL	TSA

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		2	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Vibration Quality and Levels

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the traffic movement(particularly subway traffic volumes) generated by Park Plaza increase vibration levels in the environs of the project site?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Current and projected daily volume of people movement to/from project area	YES	50,177,180
Project impact on Mass. Transit impact	NO	
Current vibration levels	NO	
Projected vibration levels	NO	
Research on vibration level abatement	NO	
Research on vibration impact on vegetation	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N	P		2	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Site Improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Scenic Features

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION		PERMANENT	X	TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza site improvements affect views and vistas of the Boston Common and Public Garden?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Photographs of existing project environs	PARTIAL	12,13
Identification of local scenic vistas	PARTIAL	12,13
Proposed project design-massing	YES	8,1,,51,54

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

N P 2 3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Scenic Features

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION		PERMANENT	X	TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the construction of Park Plaza affect scenic vistas and views of the Boston area?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Photographs of existing skyline	NO	
Identification of regional scenic vistas	NO	
Proposed project design massing	YES	8,11,51,54

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P			1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Land use type

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will proposed Park Plaza land use be in conformance with Boston's long range planning?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building Program	YES	#1 & 8
Summary 1965/1975 General Plan	YES	#138
Boston Zoning Code	YES	#140
Boston Central Business District Planning Report	YES	#142

EVALUATION OF IMPACT POTENTIAL:

B	P			2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Goods Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Land Use Type, Area & Distribution

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT		PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza induced demand for movement of goods cause conversion of presently occupied lands to public rights of way for transportation?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Vehicular traffic routes	YES	#8
MBTA Routes	YES	#158
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
Boston Transportation Planning Review-Regional Systems	YES	#159
BRA-Transportation facts for the Boston Region 1967	YES	#25
Origin/destination data	NO	

EVALUATION OF IMPACT POTENTIAL:

B	P			3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People movement demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Land Use Type, Area & Distribution

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT		PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza's induced demand for movement of people cause conversion of presently occupied lands to public rights of way for transportation?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Vehicular traffic routes	YES	#8
MBTA routes	YES	#158
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
Boston Transportation Planning Review - Regional Sys.	YES	#159
BRA-Transportation Facts for the Boston Region 1967	YES	#25
Origin/destination data	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P			4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Demolition Existing Structures

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Structural coverage, height and floor area.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will demolition of existing structures at the Park Plaza site deprive the community of needed/desired building facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of area to be demolished	YES	Set B
Survey of businesses and households to be displaced	YES	#20
Map depicting floor areas	YES	Set B
Identification of potential alternative buildings	PARTIAL	1,2,8,23, 52,55

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P			5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Structural height

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN.	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will proposed Park Plaza land use be in conformance with the "High Spine" concept?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building Program	YES	#1 & 8
Summary 1965/1975 General Plan	YES	#138
Boston Zoning Code	YES	#140
Boston Central Business District Planning Report	YES	#142

EVALUATION OF IMPACT POTENTIAL:

B	P			6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Demolition Existing Structures

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Spatial form

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

In what manner will demolition of existing Park Plaza structures alter the spatial nature of the site and environs particularly:

- Boston Common and Public Garden.
- Streets and alleys.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of area to be demolished	YES	Set B
Map of existing open spaces	YES	Set B
Photographs of existing site conditions	PARTIAL	#12
Map depicting existing building heights	YES	Set B

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

R	D			7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Spatial form

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

In what manner will construction of Park Plaza alter the spatial nature of the site and environs, particularly:

- Boston Commons and Public Gardens.
- Streets and alleys.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Architect's conceptual drawings, model and model photographs	YES	#8 & 11
Map of existing open spaces	YES	Set B
Map or model depicting heights of existing buildings in immediate environs	YES	#11

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P			S

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Visual zones (macro)

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

From what locations is/will Park Plaza be visible?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Conceptual massing drawings, model & model photos	YES	#8 & 11
Map of existing land coverage and building heights	YES	Set B
Identification of existing and anticipated zones of vision	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P			9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Profile day and night

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will construction of Park Plaza high-rise towers alter visual perception of Boston's skyline (day and night)?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Zones of vision	NO	
Conceptual massing drawings model and model photographs	YES	#8 & 11
Representation of skyline from each zone of vision	NO	
Programmed occupancies	YES	#1
Night lighting concept	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Visual zones (micro)

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT		PRE-DESIGN	X	DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

In what manner will construction of Park Plaza alter visual perception of the area from the immediate site environs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Architect's conceptual design drawings and model depicting massing	YES	#8 & 11
Photographs of surrounding foreground and background	PARTIAL	#12 & 13
Scale, materials, color, and texture definition	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Demolition Existing Structures

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Visual Perception

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

In what manner will demolition of existing Park Plaza structures alter the visual nature of the site and environs particularly:

- Boston Common and Public Garden
- Streets and alleys

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map of area to be demolished	YES	Set B
Map of existing open spaces	YES	Set B
Photographs of existing site conditions	PARTIAL	#12 & 13
Map depicting existing building heights	YES	Set B
Identification of zones of vision	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

R	P		1	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Demolition Existing Structures

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Unique quality structures

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What structures of historic, architectural, or archeologic merit will be lost due to demolition, excavation and site preparation at the Park Plaza site?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Architectural and historic surveys by Cynthia Zaitzevsky	YES	#109,110
Massachusetts Historical Commission statement to Massachusetts Department of Community Affairs	YES	#108
Memo to R. Beatty re: Walker Building from P. Henderson	YES	#49
Memo to P. Henderson re: Tavern Club from R. LaCroix	YES	#47
Memo to W. Vincent re: Tavern Club from R. LaCroix	YES	#46
Map locating buildings	YES	TSA
Map of area to be demolished	YES	Set B

EVALUATION OF IMPACT POTENTIAL:

B	P		1	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Excavation and Site Preparation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Archeological features

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What features of archeologic merit, if any, will be lost due to excavation and site preparation at the Park Plaza site?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Map locating buildings	YES	TSA
Map of area to be demolished	YES	Set B
Inventory of archeologic features	PARTIAL	#108,109

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of Work Force

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Highway Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the work force at the completed Park Plaza Project affect vehicular traffic?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing & proposed vehicular traffic routes	YES	Set A
Existing vehicular traffic volumes, for the CBD-A.M., P.M., total	YES	Set E
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
BRA 1968/1969 Transportation facts	YES	#27
BRA Transportation facts for the Boston Region 1967	YES	#159
Paths & times of work force vehicular traffic	NO	
Update of Transportation facts	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Highway Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the building occupants completed Park Plaza affect vehicular traffic?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing & proposed vehicular traffic routes	YES	Set A
Existing vehicular traffic volumes, for the CBD-A.M., P.M., total	YES	Set E
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
BRA 1968/1969 Transportation facts	YES	#27
BRA Transportation facts for the Boston Region 1967	YES	#159
Paths & times of work force vehicular traffic	NO	
Update of Transportation facts	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Highway System

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the circulation needs of building occupants and users cause alterations of the highway system?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Vehicular traffic routes	YES	Set A
BRA transportation facts for the Boston Region	YES	#159
Updated critical regional points of traffic congestion	NO	
Volume projections	NO	
Origin/Destination data	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

R	P		1	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Demolition Existing Structures

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Parking System

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What existing parking facilities will be displaced/eliminated by Park Plaza demolition activities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY.	SOURCE
Map depicting area to be demolished	YES	Set B
Map depicting quantities and nature of existing Parking	YES	Set A,B

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Parking System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the parking needs of Park Plaza work force, occupants, and users cause construction or improvement of nearby parking area?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Number of projected building occupants.	YES	#1
Programmed site parking capacity.	YES	#1
Total volume of parking demand related to time of day	NO	
Parking capacity available	NO	
Rate structures	NO	
Potential additional parking	NO	
Potential additional demand	NO	
Governmental controls	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		1	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of Work Force
Occupancy & Use of Space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Parking Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the work force employed at the completed Park Plaza project, the occupants and users utilize available parking space?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Number of projected building occupants	YES	#1
Programmed site parking capacity	YES	#1
Barton-Ashman traffic report	YES	#156
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
Barton-Ashman letter to Joan C. Harkness re: adjusting traffic flow patterns	YES	#175
Wilbur Smith Boston parking study	YES	#156
BRA off-street parking inventory	YES	#26
BRA transportation facts for the Boston Region 1967	YES	#25
Site & environ parking capacity available related to time of day.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Service Access

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

Will the increased volume of traffic and pedestrians generated by the project area impair vehicle service access to the project and immediate environs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Number and conceptual locations of service access	YES	Set A
Volume and habits of service vehicles for each building occupancy	NO	
Projected volume and habits of traffic and pedestrians for project area	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Pedestrian capacity
Pedestrian system

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

What altered pedestrian usage patterns and volumes in the project site, the Common and environs, will result from additional people movement demand?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Maps depicting altered pedestrian paths	YES	Set A
Drawings depicting conceptual internal pedestrian flow	YES	#8
Relative CBD existing pedestrian flow	YES	Set G
Volume of users generated	NO	
Origin/Destination data related to time of day & time of year	NO	

EVALUATION OF IMPACT POTENTIAL:

B P 2 2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of Work Force
Occupancy & Use of Space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Pedestrian Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

What altered pedestrian usage patterns and volumes in the project site, the Common and environs, will result from occupancy and use of Park Plaza?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Maps depicting altered pedestrian paths	YES	Set A
Drawings depicting conceptual internal pedestrian flow	YES	#8
Volume of project occupants	YES	#9
Relative CBD existing pedestrian flow	YES	Set G
Origin/Destination data related to time of day & time of year	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public Transit System

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the transportation needs of building occupants and users cause alterations of the MBTA and surface transit systems?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Volume of project occupants	YES	#9
MBTA paths and station locations	YES	#158
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
Davis, Brody minutes of 9/9/71 meeting with MBTA	YES	#179
MBTA memo to Boston City Council 11/12/71	YES	#177
Boston Transportation Planning Review - Regional sys.	YES	#159
BRA - Transportation facts for the Boston Region 1967	YES	#25
Anticipated demand on MBTA	NO	
Effect on capacity of new MBTA rolling stock	NO	
Origin/Destination data	NO	
Update of transportation facts for subway & bus sys.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

R	P		2	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of Work Force
Occupancy & Use of Space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public Transit Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will the transportation needs of the work force congest MBTA and surface transit systems?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Volume of work force	YES	#9
MBTA paths and station locations	YES	#158
Barton-Ashman Report	YES	#158
Byron C. Gilchrest memo to Alan Altshuler	YES	#173
Davis, Brody minutes of 9/9/71 meeting with MBTA	YES	#179
MBTA Memo to Boston City Council 11/12/71	YES	#177
Boston Transportation Planning Rev.-Reg. sys. Study	YES	#159
BRA - Transportation facts for the Boston Region 1967	YES	#25
Anticipated demand on MBTA	NO	
Effect on capacity of new MBTA rolling stock	NO	
Origin/Destination data	NO	
Update of transportation facts for subway & bus system	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Rail System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

What effect will increased people movement demand induced by occupancy of Park Plaza have on rail transport systems?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Occupancy types and areas.	YES	Set A,B
Projection of rail usage	NO	
Origin/Destination projections.	NO	
Capacities and existing demand on rail systems.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

People Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Rail System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

What effect will increased people movement demand induced by occupancy of Park Plaza have on rail transport systems?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Occupancy types and areas.	YES	Set A,B
Projection of rail usage	NO	
Origin/Destination projections.	NO	
Capacities and existing demand on rail systems.	NO	

EVALUATION OF IMPACT POTENTIAL:

B	P		2	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:
Fuel Demand/Consumption
Solid Waste Generation
Goods Movement Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Rail capacity, air capacity, water transport capacity, highway capacity.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

What effect will transportation of goods, fuel, solid waste induced by Park Plaza usage have on service access and highway, rail, air and water transport capacity?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Occupancy types and areas.	YES	Set A,B
Nature, quantities, and frequency of goods, fuel and solid waste to be transported.	NO	
Origin/Destination data.	NO	
Capacities and existing demand on highway, rail and water transport facilities.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Power Supply System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will construction of the superstructure generate alterations of the site environ electrical infrastructure?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Local utility connection.	YES	Set A,B

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		2	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Power Demand/Consumption, Water Demand/ Consumption, Telephone Demand, Public Signal Demand, Sanitary Sewage Generation, Solid Waste Disposal, People Movement & Gov. Service Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Power Supply System and/or Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza electrical demand/consumption due to occupancy, solid waste disposal, electrically powered transportation & utility service generation/ processing, overload the existing generation/distribution system? If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building occupancies.	YES	#1, & 8
Local & City wide generation/distribution capacities.	NO	
Local & city wide existing demand.	NO	
Park Plaza directly and indirectly induced demand.	NO	

EVALUATION OF IMPACT POTENTIAL:

B	P		3	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Water supply System

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will construction of the superstructure generate alterations of the site environ water supply infrastructure?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Local utility connection.	YES	Set A,B

EVALUATION OF IMPACT POTENTIAL:

B	P		3	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Water Demand/Consumption, Sanitary Sewage Generation and Government Service Demand.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Water Supply System and/or Capacity.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza water demand/consumption overload the existing supply/distribution system?

If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building occupancies	YES	#1 & 8
Local and city wide generation/distribution capacities	NO	
Local and city wide existing demand.	NO	
Park Plaza directly and indirectly induced demand.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		3	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

HP Water Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will water pressure and quanity be sufficient to meet fire protection needs of Park Plaza high rise construction?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Local utility connections.	YES	Set A,B
Building heights.	YES	Set B
Local high pressure fire system pressure and volume capacity.	NO	
Nature of Park Plaza fire protection systems.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		3	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Water Demand/Consumption and Government Service Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

HP Water System and or Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza HP water demand/consumption overload the existing pressure/distribution system?
If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building occupancies	YES	#1 & 8
Local and city wide pressure/distribution capacities.	NO	
Local and city wide existing demand	NO	
Park Plaza directly and indirectly induced demand	NO	

EVALUATION OF IMPACT POTENTIAL:

B	P		3	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:
Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Fuel Supply System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will construction of the superstructure generate alterations of the site environ gas infrastructure?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Local utility connection.	YES	Set A,B

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		3	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Fuel Demand/Consumption and Government Service Demand

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Fuel Supply System and/or Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza fuel demand/consumption overload the existing supply/distribution system?
If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building occupancies	YES	#1 & 8
Local and city wide supply/distribution capacities.	NO	
Local and city wide existing demand.	NO	
Park Plaza directly and indirectly induced demand.	NO	

EVALUATION OF IMPACT POTENTIAL:

B	P		3	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Telephone Demand and Government Service Demand.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Telephone System and/or Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza telephone demand overload the existing telephone system? If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Gross estimates of increased demand.	YES	#182
Utility company appraisal that demand will overload Back Bay Exchange and mandate transfer of load to Harrison Exchange.	YES	#182
Refined demand & capacity estimates.	NO	
Documentation of exchange capacities.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		3	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Sanitary Sewer System

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

To what extent will construction of the superstructure generate alterations of the site environ sanitary sewer infrastructure?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Local utility connection.	YES	Set A,B

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

B	P		3	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy & Use of Space, Sanitary Sewage Generation and Government Service Demand.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Sanitary Sewage System and/or Capacity

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY	X	FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will Park Plaza sanitary sewage contribution overload the existing processing/distribution system?
If so, what alterations will be required?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Building occupancies.	YES	#1 & 8
Local and city wide processing/distribution capacities	NO	
Local and city wide existing contribution.	NO	
Park Plaza directly and indirectly induced contribution	NO	

VALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P			1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Population size.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza affect the existing population size of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population of project area.	YES	#4,5,9, 19
Existing population of project environs	YES	#150
Demographic trends	YES	#147,148, 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S | P | | | 2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Population density

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population density of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population density	YES	#4,5,9,19
Existing population densities of project environs	YES	#150
Demographic trends	YES	#147,148, 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Population distribution.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population distribution in the project area and the regional environment.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population distribution in project area	YES	#4,5,9, 19
Existing population distribution in project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Age characteristics.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing populations' age characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population age characteristics of project area	YES	#4,5,9, 19
Existing population age characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Sex characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population sex characteristics fo the project area and the regional environment.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population sex characteristics of project area	YES	#4,5,9, 19
Existing population sex characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P			6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Ethnic composition

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population ethnic composition of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population ethnic composition of project area	YES	#4,5,9, 19
Existing population ethnic compostion of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Marital status characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population marital status characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population marital status characteristics of project area	YES	#4,5,9, 19
Existing population marital status characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Occupational characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population occupational characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population occupational characteristics of project area	YES	#4,5,9, 19
Existing population occupational characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P			9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Income characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population income characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population income characteristics of project area	YES	#4,5,9, 19
Existing population income characteristics of project environs	YES	
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P		1	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Educational level characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population educational level characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population educational level characteristics of project area	YES	#4,5,9, 19
Existing population educational level characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P		1	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Family structure characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population family structure characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population family structure characteristics of project area	YES	#4,5,9, 19
Existing population family structure characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P		1	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Family size characteristics

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the relocation required for Park Plaza effect the existing population family size characteristics of the project area and the regional environment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing population family size characteristics of project area	YES	#4,5,9, 19
Existing population family size characteristics of project environs	YES	#150
Demographic trends	YES	#147,148 149
Project relocation plans for residents	YES	#5

EVALUATION OF IMPACT POTENTIAL:

S	P		1	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Institutional type

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will the relocation of Park Plaza residents cuase the relocation or disbanding of important social institutions types?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Institutional residents of project area	YES	Set A
Location of institutional groups	YES	Set A
Relocation plans for institutions	YES	#5
Characteristics and functions of institutions effected by relocation activities.	NO	

EVALUATION OF IMPACT POTENTIAL:

S	P		1	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Institutuional size

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	possible - unknown
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will the relocation of Park Plaza residents cause the relocation or reduction of size of important social institutions?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Institutional residents of project area	YES	Set A
Location of institutional groups	YES	Set A
Relocation plans for institutions	YES	#5
Characteristics and functions of institutions effected by relocation activities	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P		1	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Relocation of people

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Institutional character

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will the relocation of Park Plaza residents cause the relocation or change in character of important social institutions?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Institutional residents of project area	YES	Set A
Location of institutional groups	YES	Set A
Relocation plans for institutions	YES	#5
Characteristics and functions of institutions effected by relocation activities	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P		1	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Political district

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE		ADVERSE		BENEFICIAL	Neutral
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

How will the new population of the Park Plaza project alter the political structure and districting of the area?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing political districts	YES	Set I
Existing voter registration and affiliation	NO	
Projected social and economic characteristics of future project residents	PARTIAL	#6, 9

EVALUATION OF IMPACT POTENTIAL:

S	P		1	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Social service capacities

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

Will the Park Plaza project generate a demand for additional social service program assistance, if public subsidized housing is included in the development program?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Current social service program assistance	NO	
Projected social and economic characteristics of future project residents	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P		1	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Fire protection capacities

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

How will the dramatic change in structural coverage and land use activity in the project site impact the existing fire protection capacities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Location of existing fire protection equipment in neighborhood	YES	Set I
Capacities of existing fire protection equipment	NO	
Proposed fire protection system for project	NO	

EVALUATION OF IMPACT POTENTIAL:

S	P		1	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Parks and recreation capacities

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE		REGIONAL	X	LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION	X	OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

How will the increased residential population and users of the project impact the existing parks and recreation capacities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Location of existing open space and parks in immediate environs	YES	Set I
Capacities of existing parks and recreational facilities	NO	
Site improvement plans for project open space	YES	#4,5
Projected social and economic characteristics of future project residents and users	PARTIAL	#6,9

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

S	P		2	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of the superstructure

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Cultural service system and capacities

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT		IRREVERSIBLE	X	REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT	X	PROJECT AGENT	
CONTROL CAPACITY		FUTURE	X	CURRENT	

SPECIFIC PROJECT ISSUE:

How will the increased residential population and users of the project impact the existing cultural service system and capacities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Location of existing cultural facilities in immediate environ	PARTIAL	Set B
Capacities of existing cultural facilities	PARTIAL	#20, Set B
Site improvement plans for cultural facilities	PARTIAL	#4,5,107
Projected social and economic characteristics of future project residents and users	PARTIAL	#6,9

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E				1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Taxable property value.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the completed project facilities increase taxable property values for the project area?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing taxable property values in project area.	YES	#18
Estimated assessed valuation for developed project.	PARTIAL	# 6

EVALUATION OF IMPACT POTENTIAL:

E				2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Real property tax rate

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Will the expected tax revenues generated by the project be large enough to have a beneficial impact on the city's real property tax rate?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing real property rax rate	YES	#144
Projected tax revenues from project	PARTIAL	# 6
Analysis of past urban renewal projects' impacts on real property tax rate	PARTIAL	# 38,39, # 40

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E 3

ENVIRONMENTAL ISSUE WORKSHEE

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Real property tax rate

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased costs of governmental services required to serve the project area effect the real property tax rate in the city?

To what degree will these costs offset the beneficial anticipated tax revenues received for the project?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Anticipated effect of project tax revenues on the city property tax rate	PARTIAL	#6
Anticipated total cost of governmented services created by the project	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E				4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Property tax revenues.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE		ADVERSE	X	BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE	X	MAJOR		MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		HIGHER		LOWER	COMMENT
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the completed project increase tax revenues for the city?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Existing property tax revenues from project area	YES	#18
Projected tax revenues from completed project	PARTIAL	# 6

EVALUATION OF IMPACT POTENTIAL:

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Property tax revenues

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the new tax exempt governmental service facilities in the neighborhood effect the total city's property tax revenues?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Space and location requirements for new public facilities (if any) required to serve the project.	NO	

EVALUATION OF IMPACT POTENTIAL:

E				6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Non-property tax revenues

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will public utility and governmental services users fees and rates (non-property tax revenues) generate income to help offset public capital and operating costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Analysis of potential utility and service demands and their operating and capital costs.	NO	
Analysis of potential revenue from utility and governmental services	NO	

EVALUATION OF IMPACT POTENTIAL:

E				7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public bond indebtedness.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital improvement project required by the development for utility and street adjustments will increase bond indebtedness.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Total estimated costs for all public site improvement capital projects requiring public bonding.	YES	#5

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E				8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Public utility demands generated by the project.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public bond indebtedness

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the public capital improvements costs rquired by the increased demands for public utilities generated by the project increase public bond indebtedness? (Includes analysis of impact on power, fuel, water, signal, sanitary sewage, strom drainage, and solid waste utility systems.)

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of required capital improvement projects in the public utility systems needed to meet increased service demands.	PARTIAL	#56,57, 58,59
Costs of projected capital improvements requiring public bonding.	NO	

EVALUATION OF IMPACT POTENTIAL:

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Governmented services demands.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public bond indebtedness

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the public capital improvement costs required by the increased demands for governmental service facilities and equipment generated by the project increase public bond indebtedness? (Includes analysis of impact on educational, cultural, fire and police systems.)

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of required capital improvement projects and equipment needed to meet the increased government service demands.	NO	
Cost of projected capital improvements requiring public bonding.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:
Construction of site improvements.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt limit margin.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What impact will the borrowing of cpaital for project site improvements have on the potnetial of the city to borrow funds for other projects?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Total estimated cost for all public site improvements capital projects.	YES	# 5
Anticipated bondings for other public programs.	PARTIAL	#34
Legal debt limits for bonding assent.	NO	
Outstanding existing bonds.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			1	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Public utility demands generated by the project.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt margin.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What impact will the bonding of capital for required public utility facility improvements have on the potential of the city to borrow funds for other projects?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Total estimated costs for all potential public utility capital projects caused by project utility demands.	NO	
Anticipated bondings for other programmed public capital projects.	PARTIAL	#34
Legal debt limits for bonding agencies.	NO	
Existing outstanding bonds.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			1	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt margin.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

What impact will the borrowing of capital of government services facilities and equipment to service project have on the potential of the city to borrow funds for other projects?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Total cost for all public service facilities and equipment caused by the project demand.	NO	
Anticipated bondings for other programmed public capital projects.	PARTIAL	#34
Legal debt limits for bonding agencies.	NO	
Existing outstanding funds.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt service costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the public bond indebtedness for capital site improvements generate debt service costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY.	SOURCE
City's credit rating	NO	
Existing bond interest rates	NO	
Debt service schedule for project bonds	NO	

EVALUATION OF IMPACT POTENTIAL:

E			1	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Public utility demands generated by the project.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt service costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the public bond indebtedness for potential utility capital investment projects caused project's utility demands generate debt service costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
City's credit rating	NO	
Existing bond interest rates	NO	
Debt service schedule for potential project bonds	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public debt service costs

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	☒	ADVERSE		BENEFICIAL	
SCOPE	☒	REGIONAL		LOCAL	
DURATION	☒	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	☒	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	☒	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	☒	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the public bond indebtedness for potential governmental service facilities and equipment required by the project generate debt service costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
City's credit rating	NO	
Existing bond interest rates	NO	
Debt service schedule for all potential project bonds	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public housing capital investment costs

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

If and when subsided public housing is programmed into the project, what impact will it have on public housing capital investment costs? Will these costs be carried by the city, state or federal government?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Capital cost of projected public housing in project area.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

F 1 7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public housing subsidy expenses

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

If and when subsided public housing is established in the project, what impact will it have on public subsidies operating costs? Will these costs be carried by the city, state or federal government?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Operating expenses and subsidy cost for projected public housing in project area.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public educational system capital investment costs

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projects' residential population demands for educational services require new public capital investment costs for schools and special educational facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on educational system caused by increased project area densities	NO	
Cost of projected capital improvments required to handle the educational demand	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			1	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public educational system operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased project population's demand for educational services increase the public school system's operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected impact on the public educational system's capacities caused by the project's residential density.	NO	
Cost of projected operating expenses required to handle the increased capacities	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			2	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public health service system capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	x	ADVERSE		BENEFICIAL	
SCOPE	x	REGIONAL		LOCAL	
DURATION	x	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	x	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	x	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	x	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the project's residential population's demand for health services require public capital investment costs for health facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on health services system caused by increased densities on project area	NO	
Cost of projected capital improvements required to handle the public health service demands	NO	

EVALUATION OF IMPACT POTENTIAL:

E			2	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public health service system operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased project population's demand for health services increase the public health services system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected impact on the public health services system's capacities caused by the project's residential density.	NO	
Cost of projected operating expenses required to handle the increased demand.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			2	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public social service system capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the project's residential population's demand for social services require public capital improvement costs for social service facilities.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on social services system caused by the increased density on project area.	NO	
Cost of projected capital improvements required to handle the social service demands.	NO	

EVALUATION OF IMPACT POTENTIAL:

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public social services operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

If and when public housing is established on the project to what degree will the increase demands of these residents for social services generate increased operating costs for public social services?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Estimated annual operating costs to provide social services for residents of public housing in project (if any)	NO	

EVALUATION OF IMPACT POTENTIAL:

E			2	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public cultural services capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projects residential population and users' demand for cultural services require public capital improvement costs for cultural service facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on cultural services system caused by the occupancy of the project.	NO	
Cost of projected capital improvements required to handle the cultural service demands	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			2	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public police protection capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projects' population and facility uses require public capital improvement costs for police protection facilities and equipment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on police protection system caused by the project's occupancy	NO	
Cost of projected capital improvements required to handle the police protection service demands	NO	

EVALUATION OF IMPACT POTENTIAL:

F			2	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public police protection operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased police protection services (if any) generated by the project increase operating costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected increase in police protection services required by the project development (if any)	NO	
Costs of projected increased police protection services to project area (if any)	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			2	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public fire protection capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projects' structures and occupancy require public capital improvement costs for fire protection facilities and equipment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on fire project's system caused by the project's structures and occupancy.	NO	
Cost of projected capital improvements required to handle the fire protection service demands.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			2	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of the work force and occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public fire protection operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased fire protection services (if any) generated by the project increase operating costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected increase in fire protection service required by project development (if any)	NO	
Costs of projected increased fire protection services to project (if any)	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			2	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of Site Improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Parks and recreation capital investments

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital expenditures will be required to establish public parks and open areas in and around the park plaza project.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed public capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			3	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Government service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public parks capitals investment costs

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projects' residential population and user's demand for open space and recreation require public capital improvement costs for park facilities and equipment?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on park system caused by the occupancy of the project	NO	
Cost of projected capital improvements required to handle the park and recreational service demands.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			3	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of the labor force and occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public parks and recreation operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will occupancy of the project and the increased demand for park use and recreational facilities increase the public parks in recreatio operating expenses? (Includes increased annual maintenance expenses to existing and newly created parks and increased recreational programs).

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected increased demand on public parks and recreation	NO	
Cost of projected increased operating costs in parks	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			3	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Employment of work force and occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public cultural services operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased public cultural activity occurring in the project area increase public cultural services operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected public cultural activity in project	NO	
Cost of projected increased on operating expenditures for cultural services.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			3	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Solid waste generation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public solid waste system capital investments costs

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased generation of solid waste from the project require public capital investments costs for solid waste system facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on solid waste sewage system caused by increased volume of solid waste.	NO	
Cost of projected capital improvements required to handle the increased generation.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			3	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Solid waste generation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public solid waste system operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased volume of solid waste generated by the project increase the public solid waste system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected impact on the public solid waste system capacities caused by the project	NO	
Cost of projected operating expenses required to handle the increased capacities	NO	

EVALUATION OF IMPACT POTENTIAL:

F			3	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public water supply capital investments

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital expenditures will be required to update and modify water utility systems services lines to the project. Capital investments for the low and high service water system and the high pressure fire system have been estimated by the project agent to be $775,80

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed public capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Water demand/consumption by the project use.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public water supply capital investments costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased water demand/consumption by users of the project require public capital investment costs for public water utility facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on water utility system generated by project demands and consumption	NO	
Cost of projected capital improvements required to handle increased volume on the public water supply systems	NO	

EVALUATION OF IMPACT POTENTIAL:

F			3	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy of project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Water supply operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased demands for water supply service in the completed project increase the public water supply system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected public water supply demand generated by the project	NO	
Cost of projected increased demands on operating expenditures for public water supply service	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			3	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public sewage system capital investments

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital expenditures will be required to update and modify sanitary sewage system service lines from the project. Capital investments have been estimated by the project agent to be $577,400.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed public capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

E			3	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Sanitary sewage generation

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public sanitary sewage system capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased generation of sanitary sewage from the project require public capital investment costs for sanitary sewage system facilities?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on sanitary sewage system caused by increased volume of sewage	NO	
Cost of projected capital improvements required to handle the increased generation	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			4	0

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public sewage system operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased demands for sanitary sewage service in the completed project increase the public sanitary sewage system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected public sanitary sewage demand generated by the project.	NO	
Cost of projected increased demand on operating expenditures for public sanitary sewage service.	NO	

EVALUATION OF IMPACT POTENTIAL:

E			4	1

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public storm drainage capital investments.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital expenditures will be required to update or establish new storm drainage service lines from the project. Capital investments have been estimated by the project agent to be $563,400.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed public capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

E			4	2

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public storm drainage system operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projected volume (if any) of storm drainage from the completed project increase the public storm drainage system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected volume of public storm drainage generated by the project	NO	
Cost of projected services required to handle increased volume of storm drainage	NO	

EVALUATION OF IMPACT POTENTIAL:

E			4	3

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvements

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public signal system capital investment

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Public capital expenditures will be required to improve the police and fire alarm signal system and street traffic signal system in and around the project. Capital investments have been estimated by the project agent to be $235,600.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

E			4	4

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Public signal service demands

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public signal system capital investments costs

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased traffic to and from the project require public capital investment costs for signal system facilities in the project environs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Projected impact on signal system generated by increased volume of traffic	NO	
Cost of projected capital improvements required to handle increased volume of traffic	NO	

EVALUATION OF IMPACT POTENTIAL:

E			4	5

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public signal system operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projected volume of traffic and pedestrian in the completed project increase the public signal system service operate expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected demand on the public original system generated by the project	NO	
Cost of projected services required to handle increased demands on public signal system.	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			4	6

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public transit system capital investment costs.

POTENTIAL SIGNIFICANCE OF IMPACT:	MORE		LESS		COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:	**HIGHER**		**LOWER**		**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased volume of users to the completed project require new public transit capital investment costs?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected demand on the public transit system generated by the project	NO	
Cost of capital investments (if any) required to handle increased demand on the public transit system	NO	

EVALUATION OF IMPACT POTENTIAL:

E			4	7

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space and people movement demands.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public transit system operating expenses

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the projected volume of transit traffic generated by the completed project increase the public transit system's operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected impact on the public transit system capacity generated by the project	NO	
Cost of projected operating services required to handle increased capacity on the public transit system	NO	

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			4	8

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Construction of site improvement

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public surface transportation system capital investments

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

Project capital expenditures will be required to improve traffic circulation and adjust street patterns in and around the project. Capital investments have been estimated by the project agent to be $925,100.

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Cost of proposed capital investments	YES	#5

EVALUATION OF IMPACT POTENTIAL:

The Saratoga Associates

E			4	9

ENVIRONMENTAL ISSUE WORKSHEET

PROPOSED ACTION:

Occupancy and use of the project space and goods/people movement demands.

ENVIRONMENTAL CONDITION OR CHARACTERISTIC AFFECTED:

Public surface transportation system operating expenses.

POTENTIAL SIGNIFICANCE OF IMPACT:		MORE		LESS	COMMENT
NATURE	X	ADVERSE		BENEFICIAL	
SCOPE	X	REGIONAL		LOCAL	
DURATION	X	PERMANENT		TEMPORARY	
MAGNITUDE		MAJOR	X	MINOR	
POTENTIAL PRIORITY OF ANALYSIS:		**HIGHER**		**LOWER**	**COMMENT**
RESOURCE COMMITTMENT	X	IRREVERSIBLE		REVERSIBLE	
PLANNING COMMITTMENT	X	PRE-DESIGN		DURING DESIGN	
CONTROL JURISDICTION		OUTSIDE AGENT		PROJECT AGENT	
CONTROL CAPACITY		FUTURE		CURRENT	

SPECIFIC PROJECT ISSUE:

To what degree will the increased volume of surface transportation traffic generated by the completed project increase the public surface transportation system operating expenses?

DATA REQUIRED FOR ANALYSIS:	AVAILABILITY	SOURCE
Amount of projected impact on the public surface highway, street and pedestrian's system capacities generated by the project.	NO	
Cost of projected operating services required to handle increased capacities on the public surface transportation system.	NO	

EVALUATION OF IMPACT POTENTIAL:

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178. Mt. Auburn Research Associates, Inc., letter on Wind Study from Ian McLaren, Weather Dynamics Division to R. Joslin, Boston Redevelopment Authority, January 27, 1972

179. Minutes of a Meeting, Anthony Louvis - Davis, Brody and Associates, September 9, 1971, Re: Mass. transit

180. Memo to Davis, Brody & Associates, From Barton-Aschman Associates, Inc., September 16, 1971, Re: Transportation planning

181. Letter to Wallace B. Orpin, P.E., BRA; Re: BRA Project R-82, CBD; Thomas C. McMahon, Director, Water Resources Commission, Division of Water Pollution Control, December 14, 1967

182. Telecom, Roger Reid, New England Tel. and Tel. Co., Engineering Department to Warren Vincent, April 5, 1973, Re: Impact on service capacities

MAJOR NEWS ARTICLES

201. "Down Draft Protection by Placing Building on Podiums", Boston Globe, February 1, 1973

202. "The Cities", Newsweek, October 16, 1972

203. "Editorial: Park Plaza", Boston Record American, June 13, 1972

204. "Foes of Park Plaza Plan, Eye Chance to Prove Fraud", Boston Globe, January 31, 1972

205. "The Gentle Rape of the Swan Boats", Boston After Dark, March 31, 1972

206. "The Hub Must Keep Moving", Boston Globe, June 7, 1972

207. "Letters to the Editor", Boston Globe, January 30, 1972

208. "New Try for Park Plaza", Boston Globe, January 29, 1973

209. "One Idea: Raise the Garden", Harold Traveler and Boston Record American, July 31, 1972

210. "Park Plaza Project: A Plum or A Lemon", Boston After Dark, April 19, 1972

211. "How Skyscrapers Affect Wind" - Boston Record American, October 24, 1971

212. "Tall Buildings and Wind", Morse

213. "Winds of Change", Boston Globe, May 9, 1971

214. Boston Sunday Globe News Clipping, "Fire on HIgh: The Skyscraper Peril", Frank Mahoney, Boston Globe Staff, December 10, 1972

215. Letter to the Editor, Re: Park Plaza threat to Garden Common, From Marvin E. Goody, FAIA, Boston Globe, January 30, 1972

BRA MAP COLLECTION - SETS

A. BRA Project Area Maps - Scale 1" = 100'

Existing streets and parking
Existing streets and parking with photography index
Sun/shadow calculator
Boring locations
Boring data (chart on map size)
Project area and environs (1" = 200')
Development parcels (1" = 40')
MBTA subway facilities
Proposed ground level circulation
Proposed mezzanine level circulation
Proposed transit level circulation
Surface drainage system (existing and proposed)
Sanitary sewer system (existing and proposed)
High service water system (existing and proposed)
Low service water system (existing and proposed)
High pressure fire service (existing and proposed)

B. BRA Urban Renewal Area (1" = 100')

Land disposal map
Site boundary map
Development schedule
Land acquisition
Illustrative site plan
Ownership data
Underground utilities relocation
    - High pressure water domestic
    - Low pressure water domestic
Underground utilities relocation
    - High pressure fire service
Underground utilities relocation
    - Sanitary, storm and combined sewers
Underground utilities relocation
    - Fire alarm and police alarm
Underground utilities relocation
    - Street lighting
Development parcels
Existing land use
Building deficiencies
Street adjustments and vehicular circulation

C. BRA Central Business District Project R-82 - (1" = 100')

Sanitary and storm sewer systems (existing)
Water systems, high and low service (existing)
High pressure fire service (existing)

D. BRA Central Business District Project R-82 (1' = 200')

Proposed preliminary surface drainage
Proposed preliminary sanitary sewer

E. BRA Traffic Planning Section (1" = 200')

A.M. peak traffic flow
P.M. peak traffic flow
Traffic flow map

F. The Rehabilitation of the Boston Common and Public Gardens (1" = 80')

Survey of existing drainage utilities
Survey of existing monuments, buildings, fences, walls, benches and fountains
Survey of existing lawns and pavements
Survey of existing trees and shrubs

G. BRA (1" = 400')

Pedestrian origins
Pedestrian volume

H. BRA City Base Maps (1" = 1200')

I. BRA Series (1" = 1600')

Ward boundaries, 1959
Wards and precincts
Key to inventory of public open space
Existing police districts
Boston division and district lines and fire stations
City of Boston Base map

J. BRA Series (1" = 1200')

K. BRA Series (1" = 100')

Copley Square base map
South core urban renewal base map
  Building deficiencies
  Existing and proposed parceling
  Circulation
  Pedestrian system
Miscellaneous base map areas

L. City of Boston Topographic and Planimetric Survey (1" = 100')

M. 8 1/2 x 11" Map Bonner 1722

N. 8 1/2 x 11" map filled in areas of Boston

O. Eleven maps, City Core Area, Public Facilities
  and Public Improvements

P. Miscellaneous Series

1" = 400' base map commons area
Boylston Street zoning
  Shadow diagram
Boston proper
  Showing changes in street and wharf lines
  1" = 100', 1795 - 1895
Aerial photo of site
City of Boston parks department
  Compiled survey of Boston Common

PART III - ENVIRONMENTAL POTENTIALS AND LIMITATIONS

This section of the report summarizes the major areas of apparent environmental influence of the Park Plaza project and the project's potentials and limitations as these emerge through the analyses and evaluations of Part I and Part II of this report.

Park Plaza's impact on the natural physical environment per se, in terms of measurable ecological change, would not appear to be of much consequence. Changes in land form, soils, hydrology, vegetation and fauna are restricted due to the fact that the project setting is already a manmade urban environment. The most significant limitations of the Park Plaza project may be related to micro-climatic changes particularly in wind speed and direction and solar exposure.

Impacts on the built-physical environment are far more substantial. Aside from some questions regarding the availability and costs of supporting services and utilities, the significant built-form impact questions generally focus on cultural considerations of density and form which could not be resolved by any outside, objective evaluation. The physical changes due to the proposed development could be described more adequately than they have to date.

Park Plaza as an urban redevelopment project, would inevitably cause a change to the existing socio-political environment - by displacing current populations and businesses, providing job opportunities and housing services for a new group of people. Certain institutions supporting the previous inhabitants also would be expected to relocate if there is no demand for their services by the new population. These could have mixed effects on the political strength of the neighborhood in general, and further cause certain social conflicts between long term residents of the Back Bay Area and new Park Plaza tenants. These potential conflicts could appear in the form of struggles for political control of neighborhood institutions and in competition and demand for various municipal services such as education, recreation, health and social services.

The economic impacts of Park Plaza also have potential benefits and cost factors. While there may be substantial increases in tax ratables, the costs of additional public services must also be evaluated. The impact on the private economy of the city does not emerge as a significant, high priority issue in this report's evaluation, but that does not mean that this impact will not be large, only that it is not a public issue of environmental impact concern.

NATURAL PHYSICAL ENVIRONMENT

LAND FORM

Construction of Park Plaza is not expected to have any major impact on land form in the project site and immediate environs. The most significant impacts on land form would result at off-site areas from the disposal of demolition debris, excavation/site preparation spoil, and construction debris. As a priority concern however, this impact would not require pre-design analysis and evaluation. Disposal sites should, however, be carefully selected during design and criteria and standards for disposal activities rigidly enforced. Too much estruarine marsh and tidal flat in the Boston area, as elsewhere along the coast, has been wantonly and permanently destroyed at the expense of urban projects.

BEDROCK GEOLOGY

Potential environmental impacts on the bedrock geology of the Park Plaza project site are not expected to prove significant. These impacts, moreover, are restricted to construction phase activities. The depth of the bedrock at the Park Plaza site is known to be approximately 167 feet deep. At this depth, excavation activities are not likely to encounter unique bedrock features or areas of paleontological interest. Seismic activity in the Boston region is not a significant factor, and construction in any event would have to comply with Boston Municipal Building code requirements for meeting potential earthquake stresses. Additional information from on site test borings would be required to further document the potential significance of bedrock geology impacts.

SURFICIAL GEOMORPHOLOGY

Since the Park Plaza development would utilize the entire project site for structural coverage, potential impacts on site surficial geomorphology and soils are so complete that the on-site impact amounts to total elimination of soil as a natural resource to be retained, except as a foundation support base.

The most significant environmental impacts related to soils would probably represent changes in the texture and permeability of soils in the Common and Garden due to increased pedestrian use caused by higher density population in the new structures.

Complete soil tests of the soils on site should be conducted to determine the specific nature of soil materials to be excavated in order to prevent erosion or sedimentation problems both at the excavation site and at spoil disposal areas. Complete soil tests should also be conducted to prepare soil maps and profiles for the Boston Common and Public Garden. This information will be essential to analysis of project construction impacts on faunal and vegetative resources, as detailed in subsequent sections.

AIR RESOURCES

The construction of Park Plaza would have an impact on air quality beginning with the mobilization of the construction labor force. The impact would shift gradually from a temporary, localized impact to a permanent, regional impact as the project's completion generated traffic movement to and from the site.

Even with the most elaborate research, it will be difficult to quantitatively document the specific air quality changes caused by the project. So many variables would enter into such analysis that its application (except on area-wide bases) would appear to be very limited and easily subject to dispute. For example, wind patterns shift, legislation imposes stricter emission control devices - and these make it difficult to accurately assess changes from the norm.

CLIMATE

Impacts on the microclimate of the Park Plaza site should be anticipated primarily as a result of the massing, bulk and height of the new structures. The most significant impacts would result from the creation of new vertical surfaces of solar exposure and a reduction of solar exposure time on horizontal surfaces when and where new building surfaces are interposed. Somewhat less significant impacts should be expected on micro-climate windspeed and direction at the project site and environs. Both of these impacts are irreversible and dictated in general by the project program, but the specific nature and magnitude of these impacts can only be determined when design has been completed to a point where the location, height and bulk of building forms have reached reasonably final determination.

Wind impacts are more susceptible to minimization through design and would normally not require planning commitment per se until the design stage has been reached. However, the second and third order effects of wind impacts - such as the impacts on vegetation and other climate factors require that the analysis and evaluation of wind effects commence as soon as possible and alternative structural arrangements tested to determine those with minimal adverse impacts.

SURFICIAL HYDROLOGY

Impacts on surficial hydrology caused by the construction of Park Plaza should not be of great concern. The most significant impacts would occur at off-site locations as a result of the functional operation of water supply, sanitary sewage and storm drainage disposal utilities - and the nature of the impacts would depend on existing conditions receiving bodies at discharge points. The quantitative and qualitative aspects of these receiving bodies are under the jurisdiction of agencies other than the BRA, and these outside agents should be fully informed as to the demands on their facilities by the development of Park Plaza.

SUBSURFACE HYDROLOGY

Park Plaza's potential impact on subsurface hydrological conditions cannot be reasonably identified until design plans have been further developed. Impacts on subsurface hydrology are generally reversible by appropriate technological mechanisms. The most significant on-site subsurface hydrological impacts would be expected to occur during excavation and site preparation, and the construction of the Park Plaza substructures. Altering ground water levels in older urban environments can produce major adverse impacts on adjacent structures from the changes in soil bearing capacity due to hydrostatic pressures, and from alteration of the environments of the foundations of older structures. Wood piling can rot when exposed to drier conditions when ground water table levels are lowered.

Subsurface hydrostatic pressures and water table levels should be investigated and defined prior to finalization of construction specifications

VEGETATIVE RESOURCES

Construction of Park Plaza can be expected to have an impact on the vegetative resources of the natural-physical environment - particularly on the site proper and the adjacent Boston Common and Public Garden. Impacts on vegetative resources would initially be felt during demolition of the existing development on the site, but the most significant impacts will occur during construction, and later during the use and occupancy of the project.

It would be extremely difficult, if not impossible, to predict the net overall effect of the impact of the project on the vegetative resource component of the environment, without a rigorous investigation of the physiologic characteristics of the existing vegetation and comparative analysis with physiologic norms for those species. It is commonly assumed that the project impact on vegetation will be adverse, but the opposite might well be true. Reduced solar exposure and changes in existing wind patterns might very well be beneficial to the existing vegetation. For example, if soil compaction due to pedestrian traffic in the parks has reduced available ground water - and nutrients - for plant growth, lower rates of solar exposure and changed wind patterns might be more in line with the physiologic requirements of the vegetation. Construction of site improvements could result in additional vegetation in the area, and increased resident population might well produce increased popular demand for more appropriate park maintenance and operation funding and policy.

On the other hand, the project could easily produce critical detrimental conditions for vegetation, leading to increased inability of the environs to support plant life - but the experiences in other densely developed urban centers indicates that plant life, given appropriate maintenance, is usually quite adaptable to urban conditions.

Vegetative resource analysis of the Park Plaza site has already been initiated. Maps indicating the location, species and condition of vegetation in the Common and Garden have been prepared. There are only a few trees in the project site proper and on adjacent built urban environs.

Normative data regarding the vegetation in the Common and Garden would be available from horticultural research centers and arboreta and colleges and universities with botany and plant physiology programs.

Detailed measurements of plant physiographic characteristics of vegetation in the environs are needed. These would measure past growth rates of trees and shrubs, transpiration rates, soil texture, acidity, composition, nutrient and fertility, ground water percolation, humidity, air temperature, soil temperature, wind direction and speed, and solar exposure.

Alterations in these conditions caused by the construction and utilization of Park Plaza should be projected to determine appropriate ranges of impact and provide detailed design criteria and standards to minimize adverse impact. For example, replanning of the pedestrian pathways in the Common and Garden, utilization of special planting techniques for dense urban landscape situations, might be some measures which could not only sustain but enhance the natural environment vegetation.

FAUNAL RESOURCES

As an urban project, Park Plaza would not be expected to cause major impacts on faunal resources. Some relocation of pigeon and rodent populations by building demolition should be expected, but natural controls will tend to minimize the effect of these relocations. Climate changes and the second order impacts of such changes on Common and Garden vegetation could also subtly alter the faunal characteristics of the existing environment. The most significant potential impacts would more likely occur at off-site areas used for the disposal of demolition and construction debris and excavation spoil. Significant impacts could also be caused by the new structures and site improvements. Building and landscape designs should be analyzed during design to evaluate the potential habitat opportunities created. Features which might tend to attract pest species, such as starlings, pigeons and rodents, should be eliminated. Use and occupancy of the new development might also be expected to increase the population of domestic pets in the areas - but the potential nuisances caused by this can be substantially alleviated by proper design.

PERCEPTUAL ENVIRONMENT

Adverse noise, vibration and scenic pollution impacts would be recurring features of the Park Plaza development. The most significant noise and vibration impact might be expected as a result of traffic to and from the completed project. Vibration impacts would be primarily from increased subway traffic volumes. Noise impacts would be due primarily to increased automotive traffic. Major impacts on scenic environments would occur as the result of the changes in the city skyline. While these changes would be of permanent, major, regional significance - they would not necessarily be adverse.

BUILT PHYSICAL ENVIRONMENT

BUILT CHARACTER

The physical character of an urban area and in particular, Boston, is largely a function of how it is perceived visually and spatially. Evaluation of this perception is highly subjective and not, therefore, an appropriate subject for this report. Alteration of the visual and spatial nature of the City may, however, be illustrated thereby furnishing decision-makers (Bostonians) with the necessary tools to make their own subjective judgment.

Site demolition will eliminate several blocks of predominately low rise structures. Subsequently, of course they will be replaced by high rise towers. The impact will differ radically from varying points of observation, depending on the distance, intervening structures' relative heights and elevations, background, whether the observer is fixed or moving, and the time of day/year. Due to the orientation of the streets, for example, project visibility will be limited from the Back Bay and Beacon Hill areas . . . or for that matter, from north of the Soldiers' Monument when foliage is in full bloom. What the effect on perception from Cambridge will be, however, is presently unknown.

Visual perception from the immediate site environs is more a function of scale, color, texture, order, etc. The relationship between Park Plaza and nearby neighborhoods, in these terms, will affect the perception of the pedestrian. Little is known of the project's intent at this micro-visual level other than that present visual chaos will undoubtedly be replaced with visual order.

The project will alter open space both as a consequence of demolition, and superstructure construction. Elimination of alleyways which may be judged hostile, and circuitous streets which may serve to disorient, will be an impact. Spatial perception of the peripheral streets, the proposed plaza, and major open spaces such as the Boston Common and Public Garden are a function not only of their horizontal geometry, but also of the form and massing of their vertically defined bounds. High rise buildings will undoubtedly have a profound effect on perception of these spaces.

HISTORIC UNIQUE BUILDINGS/FEATURES

The Architectural and Historic character of Park Square is well documented in a survey prepared by Cynthia Zaitzevsky, Technical Consultant, Boston Landmarks Commission, dated September 10, 1970. Each building of Architectural distinction and interest is identified therein. A general description of the architectural qualities of the development are hereafter excerpted from that study:

"With almost no exceptions, all important buildings were found to be on the periphery rather than actually within Park Square. . .

. . . Boylston Street from Tremont to Park Square is the only section of the Study Area possessing any real architectural unity. In the late 19th-century, the area contained the showrooms of Boston's important piano and music publishing industries. The block is dominated at the Park Square end by the 'piano row' buildings and at the Tremont Street end by larger-scale office buildings of a slightly later date. The structures on this part of Boylston Street range in date from c. 1880 to c. 1920, although early 19th-century buildings are found just off Boylston Street on Carver Street and Boylston Place. The architectural firms of Winslow and Wetherell (later Winslow and Bigelow) and Clarence Blackall are heavily represented.

Boylston Street from Park Square to Arlington Street is a ghost of two earlier building periods. The three buildings of the Women's Educational and Industrial Union are all that remain of what was formerly a complete row of Greek Revival town houses. A few isolated office buildings date from a later commercial development of c. 1890 to c. 1930."

Mrs. Zaitzevsky identifies The Little, Colonial, and Walker Buildings as "especially critical to the character of the area and must be retained". The Park Plaza concept does plan to retain them.

Further, although she assigns a lower priority, Mrs. Zaitzevsky recommends retention of the "Piano Row" Buildings nos. 146, 150, 162 and 176 Boylston Street and The Women's Educationl and Industrial Union, 260, 264 and 270 Boylston Street. These buildings are slated for demolition.

The Massachusetts Historical Commission ". . . considers the clearance approach to be justified for most of the area, since the majority of buildings are not sufficiently important historically or architecturally to cause preservation to be a primary concern."

In addition to The Little, Colonial, and Walker Buildings which had been excluded from the area of demolition prior to the date of the Commission's report, one exception, which is slated for demolition, was noted - Boylston Place including the Tavern Club Buildings nos. 4, 5 and 6.

The only unique feature identified in the data acquired thus far is the Old North Church. A visual easement along Hancock Street has been mandated by the BRA.

No archeologic features have as yet been identified.

DEMOLITION EXISTING STRUCTURES

Buildings at the Park Plaza site are being surveyed quantitatively by others to determine the degree of substandard conditions and blight. Generally, however, removal of the existing facilities will diminish the fire hazard inherent in many of the buildings of that vintage.

Usable space eliminated in the demolition process mandates the identification of alternative existing locations for the displaced tenants. Presumably BRA which has a comprehensive business and household relocation program, has the capacity to manage the relocation process. This consultant has not to date acquired any data which identifies available potential business locations.

CIRCULATION

Vehicular

The increase in freeway and parking facility construction in years past has resulted in considerable congestion in Boston's confusing street patterns which were designed for a previous era and other modes and intensities of transportation. While no comprehensive projections of Park Plaza induced traffic appear to have been made it is obvious that for peak hours the streets serving the site are already loaded beyond convenient capacity. Whether the percentage increase of traffic due to Park Plaza will measurably compound congestion or precipitate additional highway construction will be difficult to apprise. Transplanting the bus terminal, realigning streets and providing for off street service access should be of some help.

A Barton-Ashmann Associates, Inc. Transportation Planning Study concludes:

"The street network serving the site, together with the proposed alignment and cross section changes to such streets as Stuart, Charles, and Providence, provides the required capacity to carry the increased traffic", although it is not apparent from the summary memorandum how this relates to non-site generated traffic.

Parking

The same report states: "The maximum cumulative demand for parking space generated by the planned development is 3,500 spaces. However, by employing the concept of joint use, this total demand may be met by a supply of 3,000 spaces," the amount programmed for this phase of the project.

Although increased pressure will be brought to bear on the Boston Common Underground and other nearby facilities by the indirectly generated Park Plaza parking demand, the capacity appears saturated or nearly so now.

Pedestrian

Projections of localized pedestrian movement are largely a function of the project design which currently at its conceptual level of development does not justify analysis. Broad scope projections could be conducted for the larger environs to evaluate effect on neighboring business and impact on Common and Garden.

MBTA

Park Plaza is sited in juxtaposition to the Green Line which is possibly the highest utilized, most undersized and difficult to improve line in Boston. Nevertheless, the net impact of the project may not be too severe as the Barton-Ashmann Report points out:

"Because of the mixed-use nature of the development, the additional total demand placed upon the MBTA service will be distributed in a balanced manner. The proposed site is expected to generate a total of 4,900 additional subway riders per day. Of these, approximately 2,000 are expected to be travelling to and from the office development and will utilize the MBTA lines during the morning and evening peak or rush hours. The retail development is expected to generate approximately 1,400 additional subway riders daily, but these will be "off-peak" midday riders who will use the MBTA facilities while they are operating at lower volume levels. The residential development is expected to generate approximately 1,500 additional subway riders, of whom 600 will travel in the peak hours, many in the "reverse" direction (away from downtown), and 900 will be midday riders."

Proposed new rolling stock should serve to increase the present capacity of the line. Additionally, internal pedestrian passage through the project galleria may help balance the station loads between the Boylston and Arlington Stations.

Indirect demand generated by Park Plaza does not appear to have been projected. Serious evaluation of this long term impact seems crucial . . . particularly in view of the strategic location of the site as a link in the densely developing high spine and the presumed desire to give preference to mass transit as opposed to vehicular traffic absorbing the circulation load.

No data has been generated in this study relative to surface transit.

Rail, Air and Water Transit

No data has been generated in this study relative to rail, air or water transport although it isn't presumed that the impact would not be severe.

UTILITIES

Park Plaza development will require modification and/or interconnection with the following utility infrastructure:

- Electrical power distribution
- Domestic low pressure water supply
- Domestic high pressure water supply
- High pressure fire
- Telephone
- Police signal
- Fire signal
- Sanitary sewage
- Storm drainage

And possibly with:

- Steam
- Natural gas

All are available in the immediate vicinity of the site. Physical connection appears to offer no significant problems.

No refined information is currently available relative to demands on and capacities of existing utility infrastructure systems. BRA inquiries of the responsible utility companies, however, reveal the following approximations:

Electrical Service

Existing demand in the Park Plaza area is unknown. Anticipated peak hour demand is estimated at between 36,000 KW and 50,000 KW. Existing electrical capacity is in no way sufficient to meet a demand of 50,000 KW. Boston Edison has purchased property on Kingston Street and initiated plans for a new 115KV and 345KV Transmission and Stepdown Station. The first phase of this station is scheduled to be completed in 1975, the second phase in 1980 and the final phase in the period 1982 to 1987. The demand for power in Downtown Boston has been climbing at an unprecedented rate to where it is now about three quarters of a million KW.

Edison is presently completing a new station on Belvidere Street. It will relieve the load on the existing Carver Street Station. The Carver Street Station and the New Kingston Street Station will serve the Park Plaza Project.

Edison will build new duct lines and secondary vaults in the streets which will disrupt neighboring communities. Construction of Edison of New England Tel. & Tel. Company duct lines, however, does not usually constitute an appreciable disruption since they are in shallow trenches and construction moves quickly.

When proposed new stepdown stations are completed, there will be a considerable improvement to the community at large. At present, there is a danger of brown outs in Downtown Boston on warm summer days when the air-conditioning units are working constantly.

More specific engineering analysis would reveal the exact scope of construction derivative of Park Plaza. The degree of fuel consumption and natural resource pollution at the point of energy generation is yet to be determined.

Water Supply

Estimated 3,500 GPM peak hour demand and 1,500 GPM average domestic water demand is thought to be well within current capacities.

The City's mains, 16 inches in diameter and greater, many 60 to 110 years old, are considered hydraulically and structurally in good condition, but considerable tuberculation exists in the older and smaller mains. A program for cleaning and lining city trunk lines is purportedly contemplated.

Park Plaza project includes a large diameter connection between the 48" low service Tremont and Arlington Street main and the 30" main in Boylston Street which should increase the pressure and fire flow to the east.

The present high pressure fire service extends west to Charles Street. Under the proposed project improvement program for Park Plaza, the HPFS will be extended to Arlington Street.

Fuel Supply

Data relative to existing gas and steam demand is presently unavailable. The 15,000 cubic feet/hour Park Plaza gas demand is thought to be readily distributed via a 16" main in Washington Street, a 20" main in Kneeland Street and a 24" main in the South Cove area. Relocation work would be limited to the project area.

Adequacy of City wide supply capacity has not been documented.

A new boiler contemplated for the Kneeland Street Generating Plant will evidently insure the capacity to meet a projected 262,000,000 pound per year demand. To what degree construction of this plant was precipitated by Park Plaza and what the indirect impacts on fuel supply and plant generated pollutants has not been established.

Telephone and Signal

Demand is estimated at 3 to 4 times the 8,000 pairs presently in the area. To meet the proposed demand new cables will be installed at several locations. The area which is presently served by the Back Bay Exchange is expected to be transferred to the Harrison Avenue Exchange, thereby relieving the Back Bay which is presently overloaded.

New switching and cable to the central office will benefit the surrounding areas.

Sanitary Sewer

Sewage load is estimated at 3,500 GPM peak hour and 1,500 GPM average hour. Existing distribution systems are anticipated to be able to accept this load. Separation of storm and sanitary systems should enable accommodation of the load.

A proposed city wide sewer upgrade program calls for the reconstruction of several of the interceptors and branch sewers of the Boston Main Drainage System which were constructed between 1877 and 1884. During dry weather flow under Boston Harbor in tunnels is pumped up to treatment plants before discharged into the Harbor. During a storm Boston's Main Drainage System quickly fills up and through a series of overflows discharge directly into the Harbor. The system becomes surcharged when the tide comes in which results in a loss of capacity. When the tide goes out it flushes the sewage into the Harbor. The MDC is currently replacing tide gates and regulators which should cut down considerably on the pollution of the Harbor. Park Plaza will flow into both the Westside and Eastside Interceptors.

Data identifying the extent of new construction, quality of sewage treatment, degree of pollution consequent to Park Plaza, and schedule for completion of new interceptors, dam and pumping station has not been acquired prior to preparation of this report.

SOCIAL POLITICAL ENVIRONMENT

DEMOGRAPHIC STRUCTURE

On the basis of this evaluation, the effect of relocation on the existing population of the site emerges as a significant issue. Although minor in terms of the magnitude of the impact, relocation has a permanent, potentially adverse impact which is not restricted to the site or its immediate environs. The completed Park Plaza would of course, attract a much larger resident population, but this impact on demographic structure while permanent and major is largely beneficial and localized. Major concerns are related to the definition of specific sociological characteristics which are needed to provide suitable relocation services for existing people and facilities.

GROUP STRUCTURE

Relocation of the existing population of the Park Plaza site will also affect the type, size and character of existing social institutions in the site and environs of the project. These group characteristics of the social political environment include both formal and informal associations. In some cases, relocation activities associated with urban renewal have directly and permanently displaced important institutions, or have caused significant changes in membership.

The planning for Park Plaza's environmental impact should include a thorough analysis and evaluation of all group structures in the area, and the relationship of their membership to the project site population.

POLITICAL CHARACTER

The completion and occupancy of Park Plaza would have significant impacts on the existing political structure and character of the site and environs. The economics of the new development would indicate a reasonably larger capacity by tenants and residents of the site for influencing political decisions affecting not only the site proper but the adjacent environs. While the exact effects would not be known until after completion and occupancy of the project, it is possible, on the basis of projected social and economic characteristics of future owners and tenants to analyze potential changes to the Park Plaza population's capacity and interest in possible political issues such as the quantitative and qualitative aspects of municipal programs servicing the new development.

FUNCTIONAL SERVICES

In terms of significant impacts, the use and occupancy of Park Plaza would affect several functional program services of the City of Boston. If a portion of the project site is used for the housing of underpriviledged people, there would be an impact on the municipal program capacity for the provision of social services which may require the opening of selected social service offices in the completed development.

Projected use and occupancy of the site will also require evaluation as to the need for specific additional police and fire protection capacity of the site. Park and recreational needs and growing demands for cultural opportunities in the entire neighborhood of the project also suggest that the proposed development be evaluated to determine the appropriate means of providing these facilities within the project.

ECONOMIC ENVIRONMENT

PUBLIC ECONOMIC SYSTEM

As a privately financed urban renewal activity, the Park Plaza project is not expected to have many major adverse impacts on the public economy. More than half of the initial public capital required for land acquisition, demolition of existing structures and site improvements, is to be reimbursed to the city by the private developer. The most significant impacts on the public economy would result from the potential "indirect" costs of governmental services to the project area. While these impacts are minor in magnitude, they have high priority concern, requiring pre-design estimates and analysis.

REVENUES

Main objectives of the project; to provide economic renewal and revitalizations to the city's core area, will have the side effect of producing significant increases in public revenues. The project area currently produces about 2.7 million in property tax receipts. With the completion of phase I, these receipts are expected to double. Tax revenues for the entire project are estimated to produce over 8 million annually. These estimates are preliminary and dependent on the exact project assessment rate yet to be established by the City Council. Analysis of tax revenue loss during construction and phasing revenue flow schedules are presently incomplete.

Additional tax revenue benefits can occur as a result of increased assessments to areas surrounding the completed project. Results of other surveys have shown that urban renewal projects have increased property values approximately 10% in the immediate adjacent neighborhoods.

CAPITAL COSTS

Public capital costs for the constructors of the project are minimal. Public funding is limited to land equities, site preparation and site improvements. The initial cost to the City for performing this work will be $6.8 million, half of which is to be recaptured from the developer within five years. The private developer will assume all capital, credit and financial risk in the construction of the project.

In order to determine the impact of the initial public capital costs, a cash flow schedule should be established to reflect bond indebtedness, debt service costs, and amortization analysis should also be made to evaluate potential impact of these costs on other programmed capital investment projects.

UTILITY COSTS AND EXPENSES

The initial costs of rerouting and updating utility lines to the project area are reflected in public capital site improvement costs. Additional costs, however, may be necessary to provide adequate facilities and services to the project. These costs can be determined after an analysis of the impacts of the projects utility demands and consumptions on existing utility systems and capacities are estimated. Preliminary investigation indicates that the project will not initially overload utility services. Thus utility capital and annual operating costs are anticipated to be minimal.

GOVERNMENTAL SERVICE COSTS

Urban renewal activities frequently require increased "indirect" governmental service and coordination costs. Relocation payments and BRA program and design coordination costs are expected to be recaptured from the developer. With completion of the project, however, additional governmental costs may be required to provide services to the projects residents and users. These costs can be determined after an analysis of the impact of the project's service demands on existing facilities and capacities are estimated. Preliminary estimate indicates minimal capital and operating costs will be required to provide these services.

PART IV - RECOMMENDED WORK PROGRAM

This section of the report presents a recommended work program for the conduct of Phase II of the Park Plaza Environmental Evaluation.

This work program has been designed to coordinate and direct a multi-disciplinary environmental consultation team reporting directly to the Boston Redevelopment Authority but working on an advisory basis with the project developer and his architectural and engineering consultants. Such a system will maintain an independent and distinctly separated environmental evaluation effort.

The program has also been designed to be conducted concurrently with the detailed design of the project over a two year period and is coordinated with the milestones of the BRA design review process.

TASK AREAS:

A. WORK PROGRAMMING AND STUDY ADMINISTRATION

This task includes the continued organization and evaluation of existing information on the environmental resources of the site, the coordination and development of a master work program with client staff and developer design team, the preparation of a detailed scope of services for the environmental analysis work, the definition of special analysis needs, preparation and distribution of requests for proposals to conduct special studies from scientific consultation groups (for wind, vegetative, economic analysis, etc.) evaluation of proposals, selection of subconsultants and preparation and administration of subcontracts and the on-going communication and coordination of study progress and products with client staff and other consultants.

B. ENVIRONMENTAL BASE INVENTORY AND ANALYSIS

This task includes the in-depth analysis of existing information collected in Phase I, and specification, acquisition and analysis of new data for each of the components of the environment. These include:

- Natural Physical Environment

    - Site physiography
    - Bedrock geology
    - Surficial geomorphology and soils
    - Macro and micro climate
    - Air resources
    - Surficial and ground water resource quality and hydrology
    - Vegetative resources
    - Faunal resources
    - Perceptual quality including sound, vibration and scenic visual character

- Built Physical Environment

    - Land use
    - Built character
    - Circulation
    - Utilities

- Social Political Environment

    - Demographic structure
    - Institutional group structure
    - Political structure

- Economic Environment

    - Public economy
    - Private economy

Each condition and characteristic of the environment is quantified and qualitatively described in accordance with the potential significance of the impact as defined in Phase I.

Specialized consulting groups would be utilized where required for the above studies. The major product of this task is a complete description of the existing environment conditions. Potentials and constraints presented by each environmental component, and key interfaces and interactions of each component with the others are identified so that second and third order impacts of the proposed project can also be identified and defined.

C. DEVELOPMENT PROGRAM INTERPRETATION

This task area includes the analysis and environmental interpretation of the proposed development program and the proposed actions required to implement the development program. Program requirements of the project are quantified where possible in order to define and evaluate the specific duration, nature, extent and magnitude of the project impact on the characteristics and conditions of the environment as quantified in TASK A above. Qualitative interpretations will also be formulated for those aspects of the program which have a direct influence on the natural and built-physical environments.

D. CORRELATION OF DEVELOPMENT PROGRAM AND ENVIRONMENTAL BASE ANALYSIS

This task includes the comparative evaluation of the detailed development program and environmental base description. Areas of environmental conflict are identified and described in terms of specific impact characteristics, and alterations of the program or possible design interventions are recommended.

This task also includes the development of site specific standards and criteria to guide project design, construction and maintenance activities. These standards and criteria will be translated into specific recommendations for protecting, conserving, or utilizing the environmental resources of the project setting.

E. ENVIRONMENTAL MONITORING AND EVALUATION OF PROJECT DESIGN, CONSTRUCTION AND MAINTENANCE PROGRAMS

This task includes the participation in the above activities as programmed by other consultants, particularly in the evaluation of proposed development of the site as project design decisions affect environmental resources and in the evaluation of proposed construction approaches and methodologies as these may impact the environment.

F. SPECIAL ENVIRONMENTAL STUDIES AND REPORTS

This task includes the provision of services on an as-needed basis to investigate special environmental situations.

PHASES:

I. SCHEMATIC DESIGN PHASE ENVIRONMENTAL PLAN

This phase product is based largely on existing data and early inventory and analysis input. It identifies immediately apparent potentials and constraints and provides broad policy recommendations as a basis for preliminary design. It also defines general problem areas requiring more detailed analysis where design commitments should be deferred pending further study.

II. DESIGN DEVELOPMENT PHASE ENVIRONMENTAL PLAN

This phase product is based on new environmental information development and the refinement of the schematic design to a point where major land use and structural components (such as circulation systems) are resolved in terms of general location and functional relationships. It defines specific problem areas which are to be avoided in the preparation of final plans or where aesthetic, social and economic cost penalties must be accepted and accounted for to avoid adverse environmental impacts.

III. FINAL PHASE ENVIRONMENTAL PLAN

This phase product is based on full environmental information and establishes the final standards, criteria and typical solutions for detailed design. It should occur prior to the initiation of final working drawings and finalization of construction specifications materials and methods of development components.

The following pages present an outline of specific steps required to accomplish each task area and phase objective.

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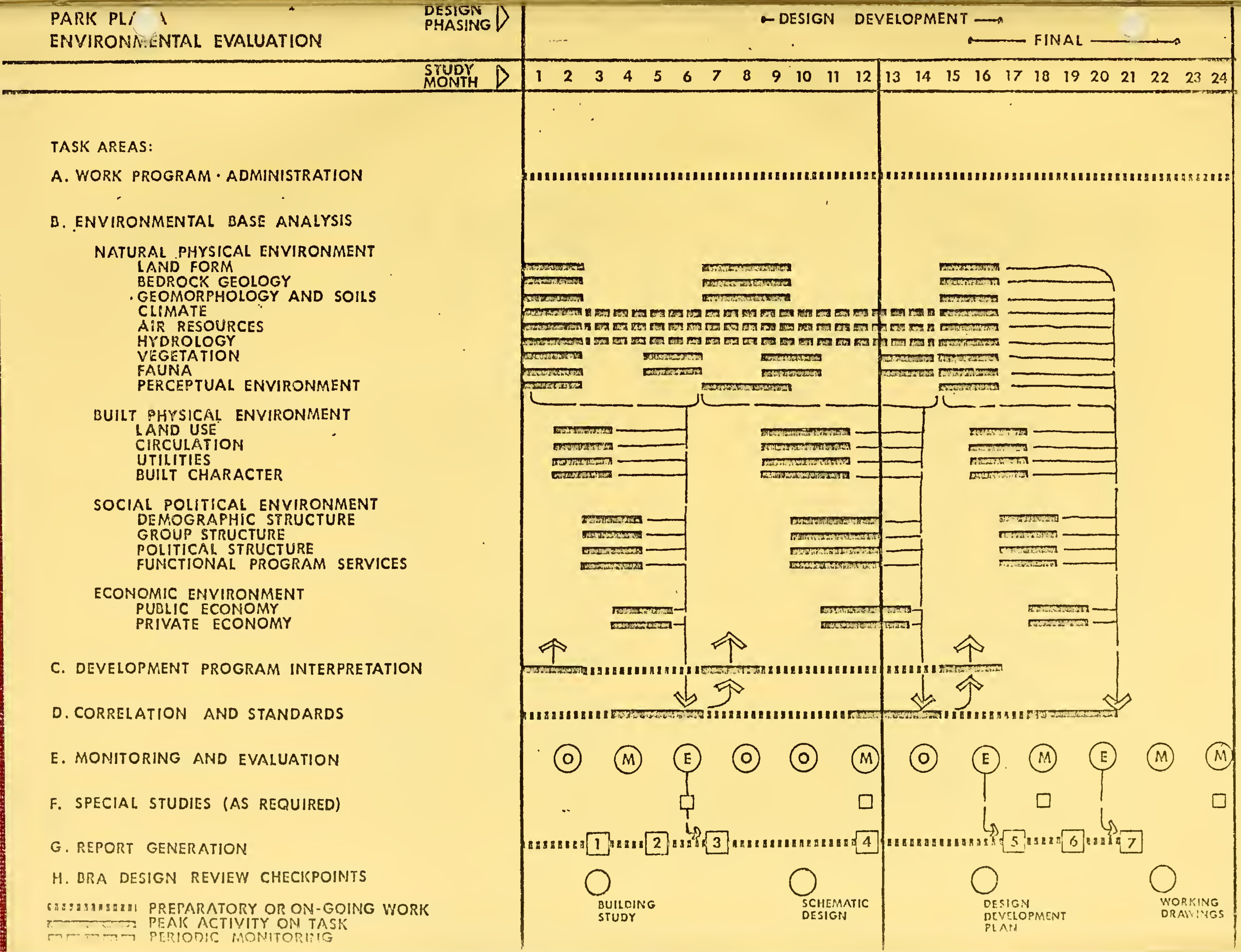
ENVIRONMENTAL EVALUATION



PROPOSED PHASE II PARK PLAZA ENVIRONMENTAL EVALUATION WORK PROGRAM SCHEDULE CHART

The accompanying graphic illustrates how the recommended Phase II Environmental Evaluation Work Program would be coordinated with the detailed design of the project.

The administration of the architectural design of Park Plaza calls for four distinct periods of work during which plans become increasingly more detailed at the end of each stage, there is a major review of the emerging details and decisions validated which gradually solidfy the architectural design of the project.

The four stages and the approximate time required for preparation, review and approval are:

- Building Study - 4 months
- Schematic Design - 6 months
- Design Development - 6 months
- Final Working Drawings and Specifications. - 6 months

The Phase II Environmental Evaluation Work Program should be coordinated with this four-step process in order to both provide the developer's architectural and engineering consultants with increasingly more refined environmental data and standards, and to provide for timely monitoring and evaluation of the architectural design work to insure consistency with environmental requirements.

The chart describes the major environmental evaluation task areas as defined earlier. The basic schedule characteristics of each of these major task areas are as follows:

A. WORK PROGRAM ADMINISTRATION

This activity continues on an on-going basis throughtout the study.

B. ENVIRNOMENTAL BASE ANALYSIS

As in the Phase I Environmental Evaluation of this report, the conditions and characteristics of the environment are grouped in four major areas. Thus Phase I activity has already identified those significant conditions and characteristics which should be defined and described in greater detail. Description and analysis of these conditions and characteristics is split into three periods and organized to provide input to the architectural and engineering consultants well in advance of the completion of each stage of the design process.

Natural physical environment analysis is initiated first as the physical is ultimately the basic environment. Built physical conditions are next analysed - particularly in relation to the fit of the built physical with the natural environment.

The social, political environmental base is analysed in sequence with the built physical environmental since characteristics of the former are largely governed by the built physical environment. The latter establishes density and distribution of the population and, to a lesser degree, the qualitative aspects of income, family size, etc. The demographic structure of the environs establishes the basic institutional and political context, and all three have a major influence on the system and capacity characteristics of various functional program services.

Finally the public and private aspects of the economic environment are identified and described. The economic environment is basically the qualitative value of the other components of the environmental base, and the determination of the economic parameters of the study is governed by the scope and extent of the analysis universe established for the natural physical, built physical and social political environments.

Each of the above environmental base components is described in greater detail as the planning effort proceeds through schematic, design development and preliminary working drawing stages.

C. DEVELOPMENT PROGRAM INTERPRETATION

Interpretation of the development program is the second major task of the environmental evaluation work program. As in the case of the environmental base analysis, the interpretation of the development program is an extension of the Phase I definition of the environmental issues.

The program is essentially the same series of "proposed actions or activities" as generally defined on the vertical vestor of the Phase I matrix. Each of these program elements must be described in specific quantitative and qualitative terms, to the extent possible, prior to the initiation of each design stage.

Thus the concept program providedby the Boston Redevelopment Authority as part of the developer's kit becomes refined into a schematic program, a design development program and ultimately a final program as defined by the final working drawings and the specifications for the Park Plaza project. This includes required contributions of other agencies such as the MBTA.

Interpretation of the development program prior to each design phase is essential in order to determine precise areas of refinement of the environment base analysis used to guide the design effort at each stage.

Thus the concept program interpretation should be completed in the first two months prior to the initiation of the schematic design phase. Schematic program interpretation should be completed in months 7 and 8 immediately prior to the initiation of the design development phase. Design development program interpretation should be completed in months 15 and 16 immediately prior to the initiation of working drawings.

D. CORRELATION AND STANDARDS

The environmental base analysis and development program interpretation conducted during each stage of the design must be correlated with the physical design of the project. The environmental evaluation concentration team would make presentations of their findings and recommendations to both BRA and the developer and his architectural and engineering consultants well before the finalization of the design decisions and interpretations of each stage.

Thus the work program chart indicates a three month period of intensive interaction with the design consultant team prior to the conclusion of the schematic, design development, and preliminary working drawing stages. The decisions from these meetings serve as the basis for the program refinement and interpretation for the next stage.

E. MONITORING AND EVALUATION

In addition to specified intervals for the formal resolution of environmental impacts at the close of each phase, the work program indicates specific observational (O), monitor (M) and evaluative (E) check points every two months throughout the design process. These checkpoints again require interaction of environmental evaluation and design consultants or decision making.

Observational meetings would be short progress presentations by the design consultants during which the environmental evaluation consultants would analyze and evaluate design progress from the point of view of environmental impact. Monitor meetings would be presentations by the environmental evaluation consultants of emerging environmental impact issues of concern to the design consultant. These would include suggestions as to how the environmental impact issues may be resolved. Evaluation meetings would be follow-up meetings to consider the feasibility and desirability of design solutions to environmental problems as proposed by the design consultant.

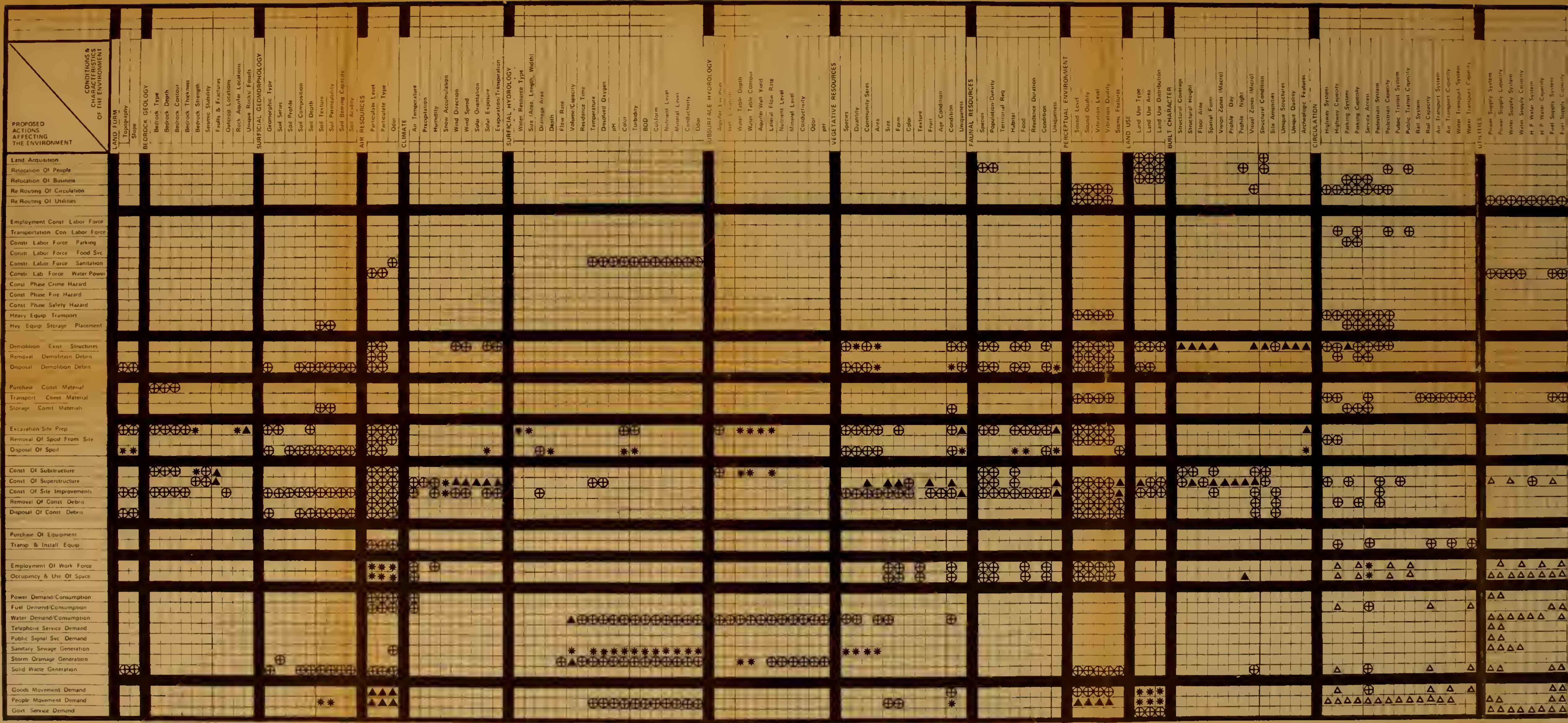
F. SPECIAL STUDIES

Throughout the course of the project, certain environmental impact situations will emerge which will require some unusual or more refined analysis. Some of these may be programatic rather than design studies relating to other government funds or programs which could be applied to impact situations. Others will be primary research into the state of new technological developments which could assist in sustaining high levels of environmental quality in the development of the project. As the work program chart indicates, these would be done on an as needed basis.

G. REPORT GENERATION

The program chart also describes the general timing

1. Concept Development Program Interpretation - third month.
2. Interim Report, Schematic Design Stage Environmental Evaluation - fifth month.
3. Final Report - Schematic Design Stage Environmental Evaluation - seventh month.
4. Interim Report - Design Development Stage Environmental Evaluation - twelth month.
5. Final Report - Design Development Stage Environmental Evaluation - seventeenth month
6. Preliminary Draft Report - Final Environmental Evaluation and Program for Park Plaza - nineteenth month.
7. Overall Final Report - twenty-first month.



PROPOSED ACTIONS AFFECTING THE ENVIRONMENT

CONDITIONS & CHARACTERISTICS OF THE ENVIRONMENT

LAND FORM
Topography
Slope

BEDROCK GEOLOGY
Bedrock Type
Bedrock Depth
Bedrock Contour
Bedrock Thickness
Bedrock Strength
Seismic Stability
Faults & Fractures
Outcrop Locations
Rock Aquifer Locations
Unique Rocks/ Fossils

SURFICIAL GEOMORPHOLOGY
Geomorphic Type
Soil Series
Soil Profile
Soil Composition
Soil Depth
Soil Texture
Soil Permeability
Soil Bearing Capacity
Soil Acidity

AIR RESOURCES
Particulate Level
Particulate Type
Odor

CLIMATE
Air Temperature
Precipitation
Humidity
Snow Accumulation
Wind Direction
Wind Speed
Solar Orientation
Solar Exposure
Evaporation/Transpiration

SURFICIAL HYDROLOGY
Water Resource Type
Size (Area, Length, Width)
Drainage Area
Depth
Flow Rate
Volume/Capacity
Residence Time
Temperature
Dissolved Oxygen
pH
Color
Turbidity
BOD
Coliform
Nutrient Level
Mineral Level
Conductivity
Odor

SUBSURFACE HYDROLOGY
Aquifer Location
Well Location
Water Table Depth
Water Table Contour
Aquifer Well Yield
Lateral Flow Rate
Nutrient Level
Mineral Level
Conductivity
Odor
pH

VEGETATIVE RESOURCES
Species
Quantity
Community Series
Area
Size
Form
Color
Texture
Fruit
Age Condition
Condition
Uniqueness

FAUNAL RESOURCES
Species
Population/Density
Territorial Req
Habitat
Food
Residence Duration
Condition
Uniqueness

PERCEPTUAL ENVIRONMENT
Sound Level
Sound Quality
Vibration Level
Vibration Quality
Scenic Features

LAND USE
Land Use Type
Land Use Area
Land Use Distribution

BUILT CHARACTER
Structural Coverage
Structural Height
Floor Area
Spatial Form
Vision Zones (Macro)
Profile Day
Profile Night
Visual Zones (Micro)
Structural Condition
Site Amenities
Unique Structures
Unique Quality
Archeologic Features

CIRCULATION
Highway System
Highway Capacity
Parking System
Parking Capacity
Service Access
Pedestrian System
Pedestrian Capacity
Public Transit System
Public Transit Capacity
Rail System
Rail Capacity
Air Transport System
Air Transport Capacity
Water Transport System
Water Transport Capacity

UTILITIES
Power Supply System
Power Supply Capacity
Water Supply System
Water Supply Capacity
H P Water System
H P Water Capacity
Fuel Supply System
Fuel Supply Capacity

Land Acquisition
Relocation Of People
Relocation Of Business
Re Routing Of Circulation
Re Routing Of Utilities

Employment Const Labor Force
Transportation Con Labor Force
Constr Labor Force Parking
Constr Labor Force Food Svc
Constr Labor Force Sanitation
Constr Lab Force Water Power
Const Phase Crime Hazard
Const Phase Fire Hazard
Const Phase Safety Hazard
Heavy Equip Transport
Hvy Equip Storage Placement

Demolition Exist Structures
Removal Demolition Debris
Disposal Demolition Debris

Purchase Const Material
Transport Const Material
Storage Const Materials

Excavation Site Prep
Removal Of Spoil From Site
Disposal Of Spoil

Const Of Substructure
Const Of Superstructure
Const Of Site Improvements
Removal Of Const Debris
Disposal Of Const Debris

Purchase Of Equipment
Transp & Install Equip

Employment Of Work Force
Occupancy & Use Of Space

Power Demand/Consumption
Fuel Demand/Consumption
Water Demand/Consumption
Telephone Service Demand
Public Signal Svc Demand
Sanitary Sewage Generation
Storm Drainage Generation
Solid Waste Generation

Goods Movement Demand
People Movement Demand
Govt Service Demand

NATURAL PHYSICAL

BUILT PHYSICAL

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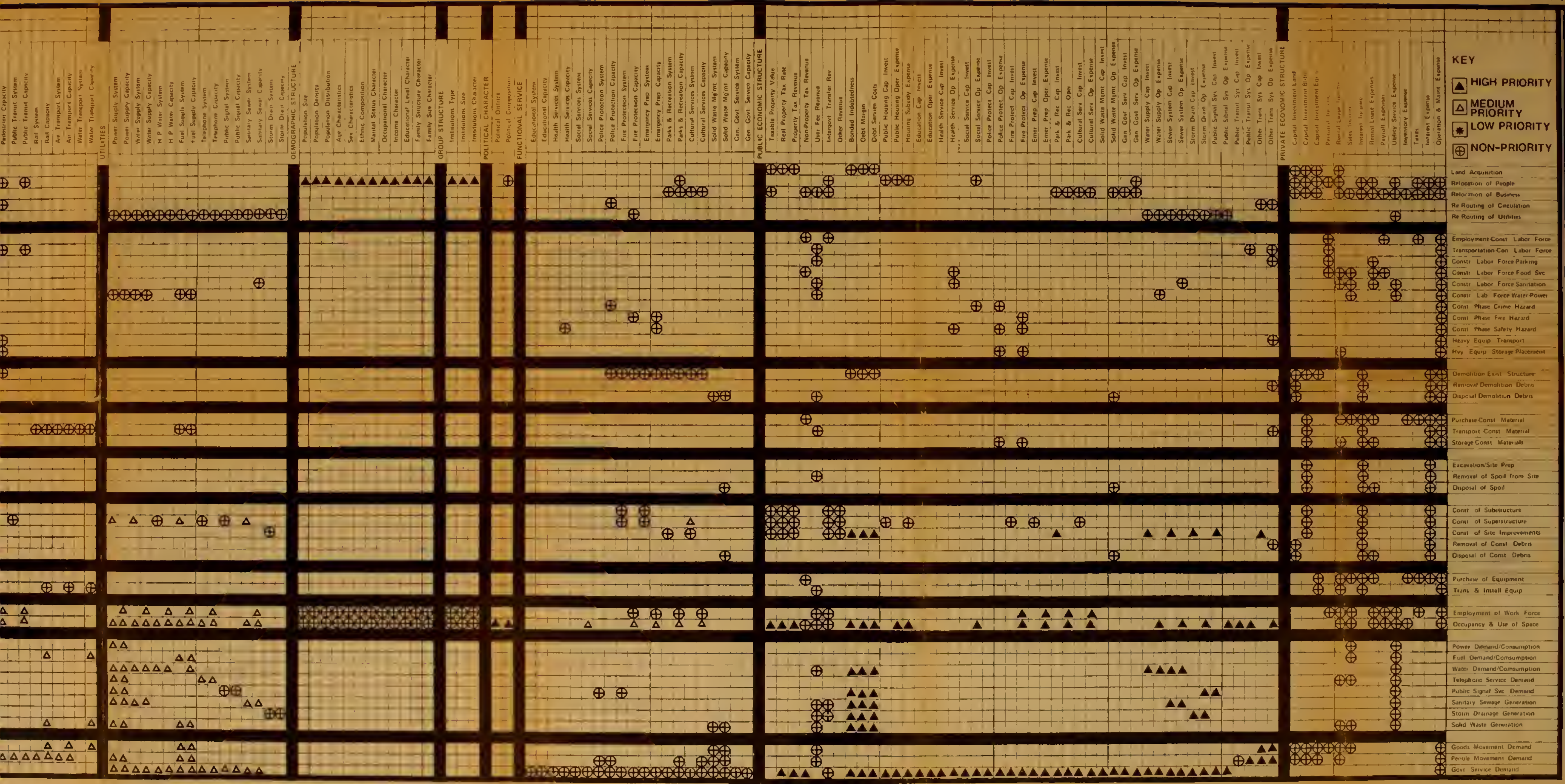
UTILITIES
DEMOGRAPHIC STRUCTURE
GROUP STRUCTURE
POLITICAL CHARACTER
FUNCTIONAL SERVICE
PUBLIC ECONOMIC STRUCTURE
PRIVATE ECONOMIC STRUCTURE
Land Acquisition
Relocation of People
Relocation of Business
Re Routing of Circulation
Re Routing of Utilities
Employment Const Labor Force
Transportation Con Labor Force
Constr Labor Force Parking
Constr Labor Force Food Svc
Constr Labor Force Sanitation
Constr Lab Force Water Power
Const Phase Crime Hazard
Const Phase Fire Hazard
Const Phase Safety Hazard
Heavy Equip Transport
Hvy Equip Storage Placement
Demolition Exist Structure
Removal Demolition Debris
Disposal Demolition Debris
Purchase Const Material
Transport Const Material
Storage Const Materials
Excavation/Site Prep
Removal of Spoil from Site
Disposal of Spoil
Const of Substructure
Const of Superstructure
Const of Site Improvements
Removal of Const Debris
Disposal of Const Debris
Purchase of Equipment
Trans & Install Equip
Employment of Work Force
Occupancy & Use of Space
Power Demand/Consumption
Fuel Demand/Consumption
Water Demand/Consumption
Telephone Service Demand
Public Signal Svc Demand
Sanitary Sewage Generation
Storm Drainage Generation
Solid Waste Generation
Goods Movement Demand
People Movement Demand
Govt Service Demand
SOCIAL POLITICAL
ECONOMIC

KEY

▲ HIGH PRIORITY

△ MEDIUM PRIORITY

✱ LOW PRIORITY

⊕ NON-PRIORITY

PARK PLAZA

ENVIRONMENTAL EVALUATION

BRA/1038B
map 1 of 6

PREPARED FOR
BOSTON REDEVELOPMENT AUTHORITY
CITY HALL
BOSTON MASS

PREPARED BY
THE SARATOGA ASSOCIATES
THE ARCADE
SARATOGA SPRINGS N Y
A PARTNERSHIP OF
BRISTOL LEAVER LITYNSKI YAROSH
HOLLISTER AND MOORE P C
LANDSCAPE ARCHITECTS
ARCHITECTS AND PLANNERS
AND
ECOPLANS INC
A CORPORATION
FOR ENVIRONMENTAL PLANNING

ENVIRONMENTAL IMPACT MATRIX
SYNTHESIS

APRIL 1973

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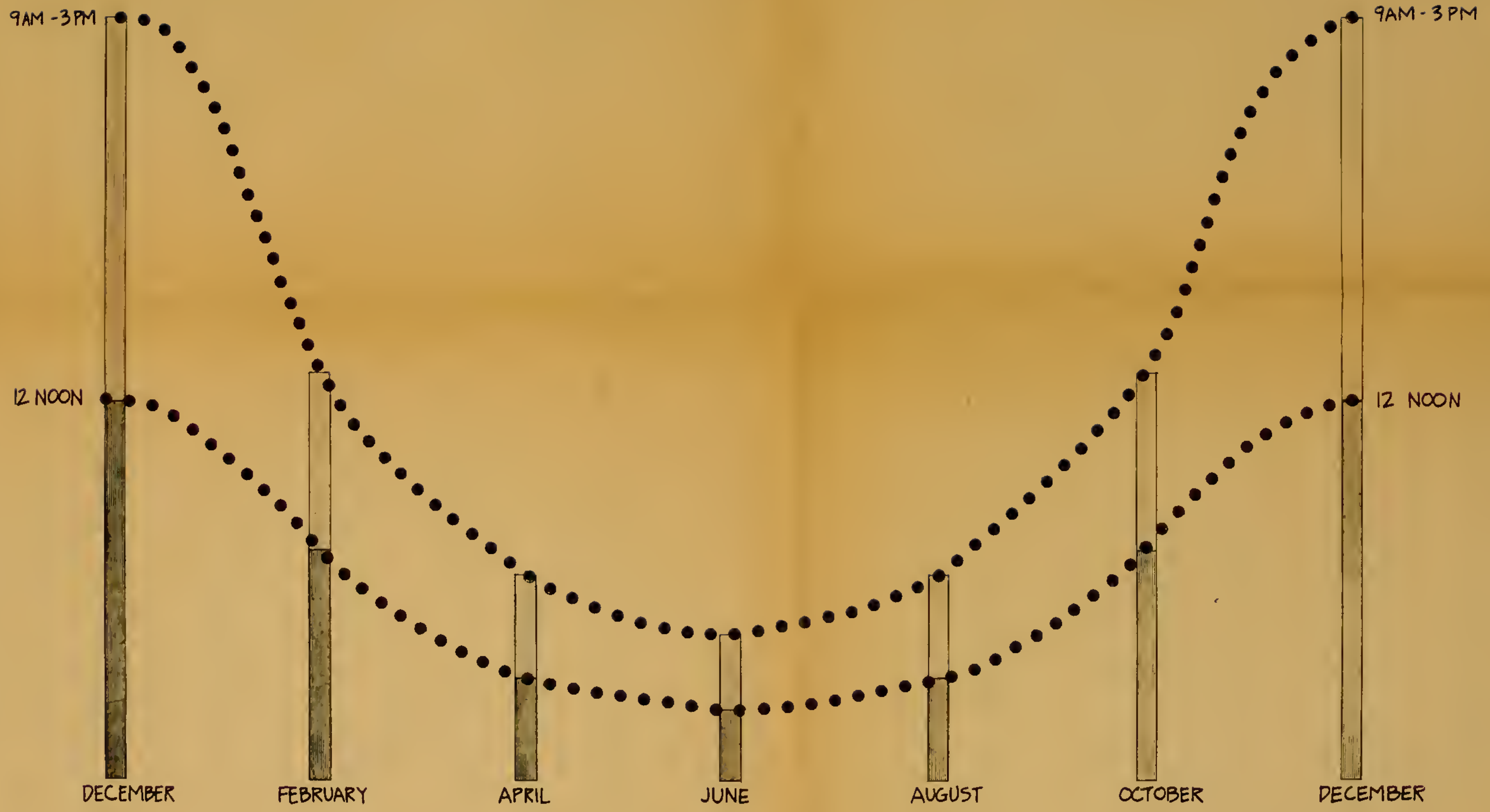

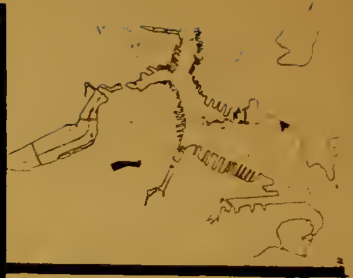

▨ EXISTING □ PROPOSED

SHADOWS

SEASONAL CHANGE
IN SHADOW LENGTH

PARK PLAZA

PROJECT AREA MAP

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BOSTON REDEVELOPMENT AUTHORITY

BRA / 1038 B
map 2 of 6

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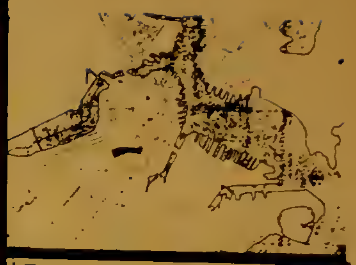

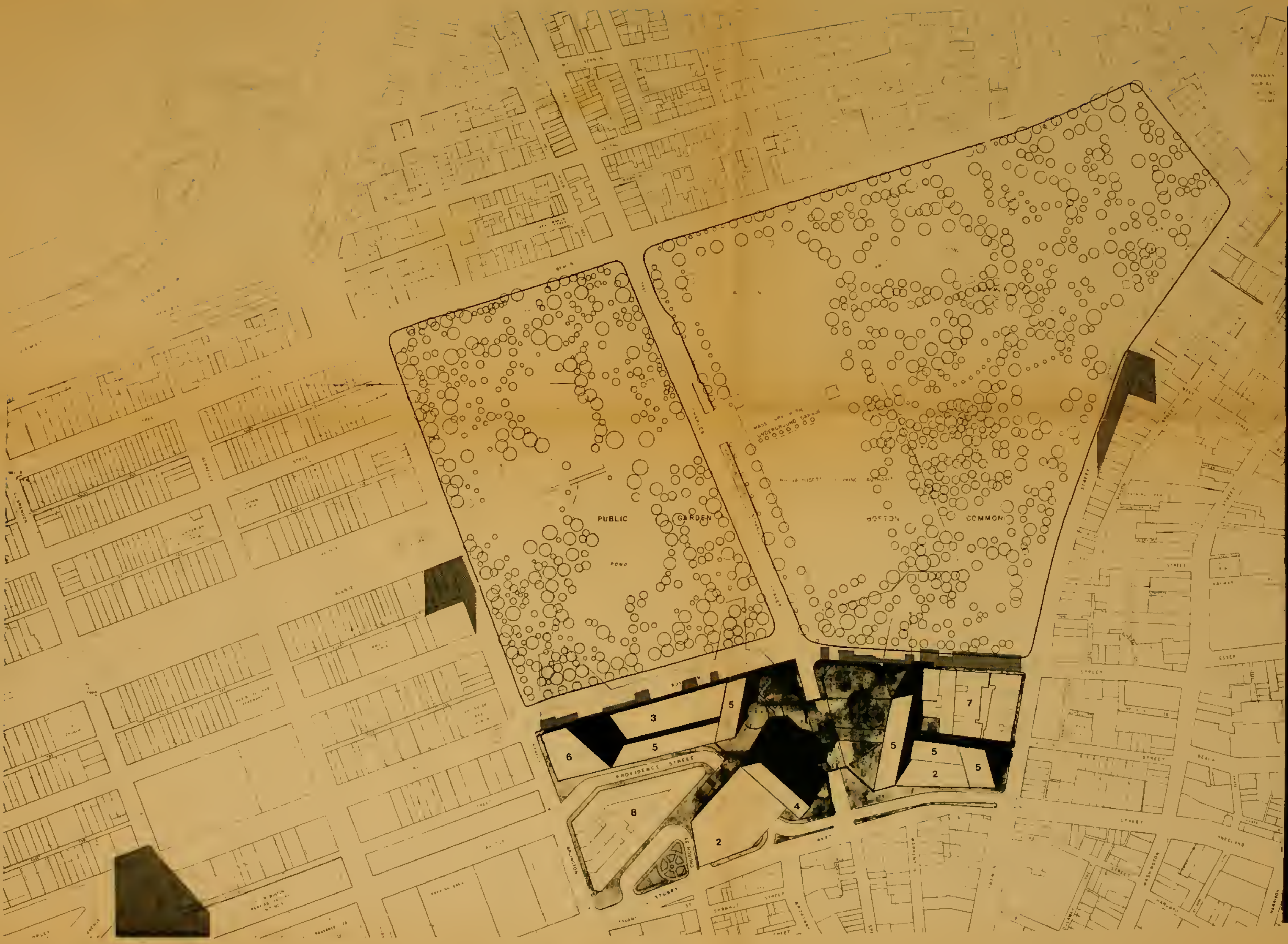

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DEC. 21	☐	☐	☐

PARK PLAZA

PROJECT AREA MAP

BRA/1038 B

map 3 of 6

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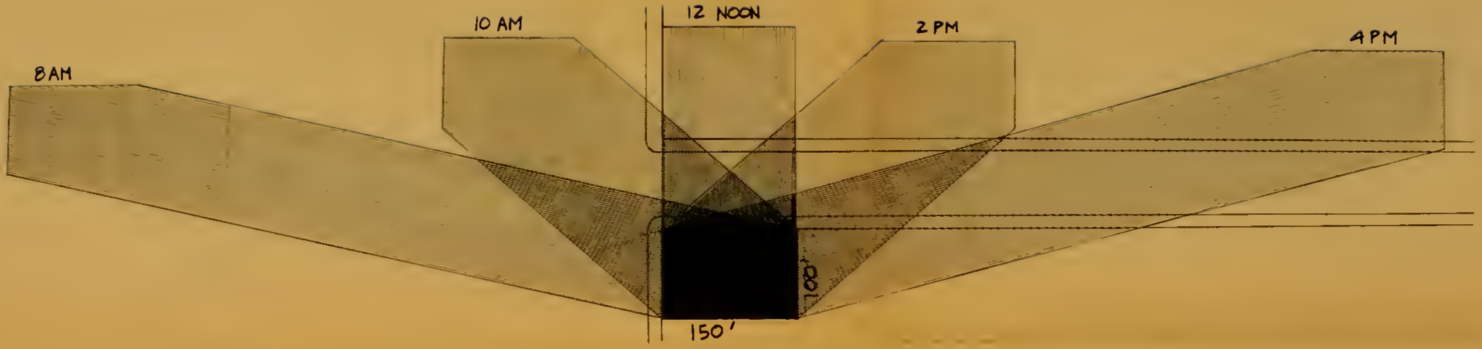

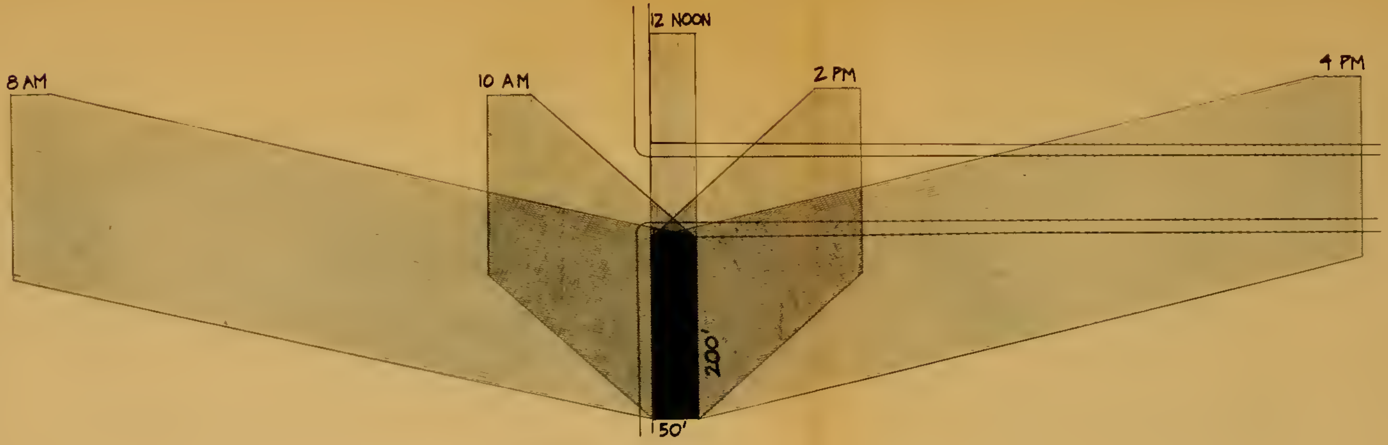

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SHADOWS

SHADOW SHIFT
THROUGH DAY
(APR./AUG. 21)

PARK PLAZA

PROJECT AREA MAP

NORTH

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BRA/1038B
map 4 of 6

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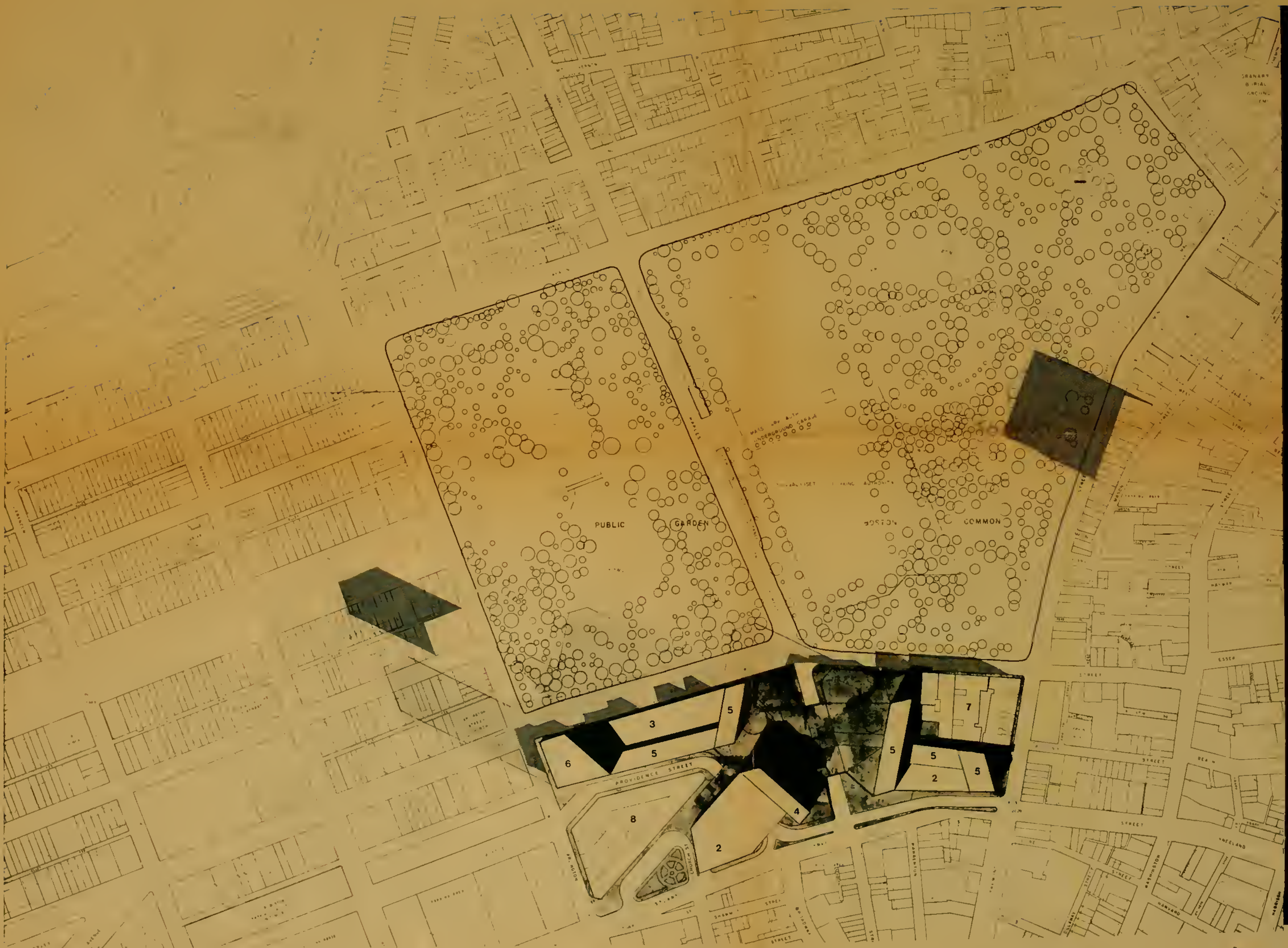

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PARK PLAZA

PROJECT AREA MAP

BRA/1038B

map 5 of 6

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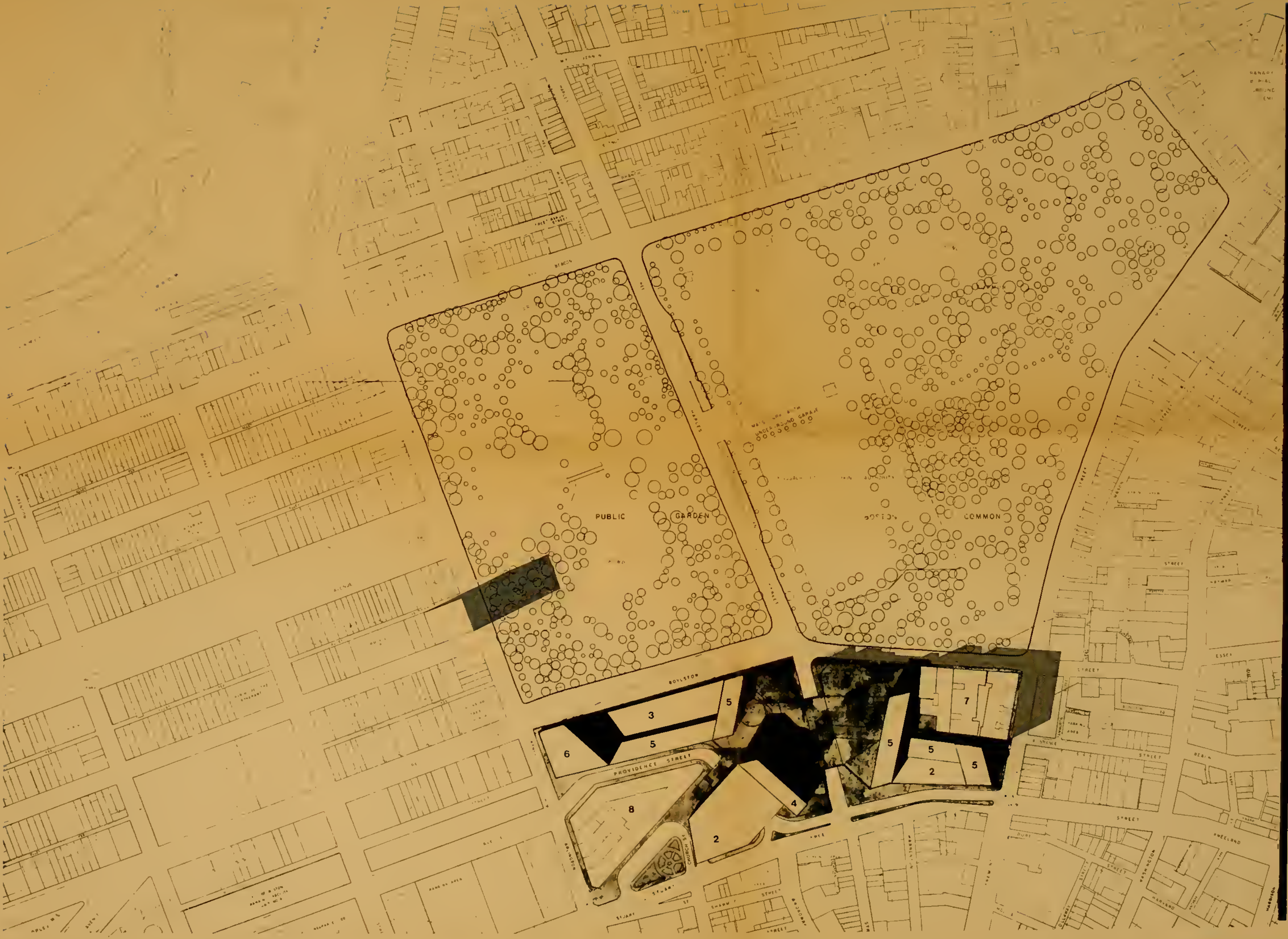

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PARK PLAZA

PROJECT AREA MAP

BRA/1038B

map 6 of 6

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3rd submission

3rd submission